99th Congress
2d Session

JOINT COMMITTEE PRINT

S. PRT.
99-199

POVERTY, INCOME DISTRIBUTION, THE FAMILY AND PUBLIC POLICY

A STUDY

PREPARED FOR THE USE OF THE

SUBCOMMITTEE ON TRADE, PRODUCTIVITY, AND ECONOMIC GROWTH

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

DECEMBER 19, 1986

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE

63-649 O

WASHINGTON : 1986

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

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LETTER OF TRANSMITTAL

DECEMBER 2, 1986.

Hon. DAVID R. OBEY,
Chairman, Joint Economic Committee, Congress of the United States, Washington, DC.

DEAR MR. CHAIRMAN: Transmitted herewith is a new study of the Subcommittee on Trade, Productivity, and Economic Growth entitled "Poverty, Income Distribution, the Family and Public Policy." This study was prepared by Professors Lowell Gallaway and Richard Vedder of Ohio University under contract from the Joint Economic Committee.

The authors analyze various measures of economic well-being to establish how these may have changed over time. The authors conclude that while most Americans have experienced progressively higher living standards in recent decades, an underclass group has emerged without the wherewithal to support themselves or improve their economic situation. Unfortunately, government policy has played a role in creating this tragic state of affairs. This suggests that reform of welfare policy should take a high place in the agenda of policymakers in the near future.

Sincerely,

DANIEL E. LUNGREN,
Vice Chairman, Subcommittee on Trade, Productivity, and Economic Growth.

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FOREWORD

By Representative Daniel E. Lungren

The current economic expansion, one of the longest since WW II, has clearly improved the American standard of living. Real median family income has increased for 3 years in a row, and over 11 million new jobs have been generated. Moreover, the upward trend in the poverty rate, which started in the 1970's, has been broken. In 1983 there was no statistically significant change in the poverty rate, and it has declined in each of the following 2 years.

Furthermore, the distribution of income has not changed appreciably in recent years. Indeed, the distribution of income has remained remarkably constant for many decades. As the economy and family income expanded over the years, the benefits have been broadly shared by the different income groups. The recent American record of economic, employment, and income growth compares favorably with most advanced industrial nations.

The adoption of growth oriented economic policies in the early 1980's has generally been successful. The average American is now better off than in 1980, when the economy was mired in stagflation. Real median family income rose in 1985 to $27,735, compared to a level of $27,446 in 1980. Most importantly, the economic gains of recent years have not been founded on an accelerating inflation which would necessitate painful corrective measures in future years. These gains will not be erased by harsh actions to contain runaway inflation; to the contrary, inflation is currently at very low levels.

Despite our progress in achieving noninflationary economic growth, there is little ground for complacency. Some serious problems remain which must be addressed. Among the most pressing of these is the emergence of an underclass apparently severed from normal labor market participation. This underclass, composed of all ethnic groups, has grown over the last two decades through good times and bad, seemingly oblivious to economic trends. This group represents an immense waste of human potential: economic, cultural, and personal. The promise of millions of lives goes unfulfilled, leaving misery, frustration, and anger. This is a national tragedy.

Government policy has devised a number of well intentioned welfare programs in an effort to help the poor. The evidence presented in this study suggests that the effect of these programs since the early 1970's has been counterproductive, indeed, that they have greatly exacerbated the very problems they were intended to solve. We have, in fact, created a new form of poverty—"welfare chained poverty." In a tragic paradox the intended beneficiaries have become unintended yet real victims. Given the great economic and

human costs of this failure, welfare reform should be placed at the top of the public agenda for timely consideration.

This provocative report is not based on rhetoric or politics, but on rigorous economic analysis based on extensive empirical research. While meeting the highest standards of scholarship it is yet accessible to the general public. While I don't necessarily agree with all of its conclusions, this report, along with other studies, merits the serious consideration of the 100th Congress.

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POVERTY, INCOME DISTRIBUTION, THE FAMILY AND PUBLIC POLICY

By Lowell Gallaway and Richard Vedder*

I. CHANGING TRENDS IN INCOME AND ITS DISTRIBUTION

A debate has reemerged in recent years that has surfaced fairly regularly since the beginning of the Republic. To what extent has economic progress and growth meant higher income and greater welfare for the people? Have all groups of Americans shared in any gains that have occurred? Are the poor being treated fairly? Is poverty being eradicated? These issues arise in a number of contexts, including policy debates over expenditure reductions, tax revision, and sometimes even economic regulation.

The well-being of any group of persons depends in part on the availability of goods or services. While "man cannot live by bread alone," few would deny that "bread" and other material goods and services contribute to the betterment of the human condition. Material things are purchased with income, and most people seem to prefer more income to less. In the technical jargon of economics, the marginal utility of income is believed to be positive.

Existing statistics of income and its components are imperfect as measures of economic welfare. Much income is excluded, either because it takes place outside of markets (e.g., homegrown vegetables, household services), or is hidden in the underground economy (e.g., the drug trade, some unreported labor income). Leisure provides satisfaction, yet is not included in the national income accounts. Adjusting nominal income figures for changing currency values is not error free. Certain social costs (e.g., pollution) subtract from our economic welfare but are not recorded in our accounting.

Still, for all the data imperfections, social scientists rely on aggregate income statistics to make some statements about the changing welfare of people. Despite the problems, significant increases in income or consumption are sensed by the public to suggest positive gains in economic welfare, while decreases are sensed to suggest losses in such welfare.

Trends in Income and Consumption

Probably the most commonly used indicator of income available to individuals is personal income. It is a measure of payments received by individuals from work, from ownership of capital and natural resources, or from governmental transfer payments. Generally, in making interspatial or intertemporal comparisons, personal

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income is placed on a per capita basis to take account of variations in population. For example, personal income per capita is the standard indicator used by the Department of Commerce in analysis of regional economic trends. For some purposes, the statistic that is sometimes preferred is *disposable* personal income (personal income after income taxes), since it is the best indicator of financial resources available to individuals for their disposition.

In evaluating income trends over time, correction must be made for variations in prices. Since our interest is in the purchasing power of individuals and families, an index of consumer prices is probably the most appropriate means of converting nominal values into dollars of constant purchasing power. For this purpose, the Consumer Price Index (CPI) is most often used. At the same time, however, the CPI was widely criticized for overstating inflationary pressure during the seventies and early eighties. The impact of rising interest rates on mortgage payments used in the housing component of the CPI led to the index rising faster than the real cost of consumer goods and services, in the judgment of many. Therefore, some persons prefer the personal consumer expenditure (PCE) component of the gross national product price deflator as a measure of changing consumer prices.

Table 1–1 looks at trends in real personal income per capita from 1950 to 1985, measured four ways: personal income per capita deflated by the CPI; personal income per capita deflated by the PCE price index; disposable income per capita deflated by the CPI; and disposable income per capita deflated by the PCE index. All numbers are expressed in 1982 dollars. The numbers are also expressed in index form, with 1970=100.

TABLE 1–1.—TRENDS IN REAL PER CAPITA PERSONAL INCOME IN THE UNITED STATES, 1950–85

Income measure[1]	Price index	1950	1960	1970	1975	1980	1985
Personal income	CPI	$6,080	$7,445	$10,165	$10,996	$11,713	$12,451
Personal income	PCE	5,704	6,885	9,455	10,279	11,448	12,327
Disposable personal income	CPI	5,531	6,527	8,745	9,568	9,947	10,588
Disposable personal income	PCE	5,220	6,036	8,134	8,944	9,722	10,483
Indexed values: 1970=100							
Personal income	CPI	59.8	73.2	100.0	108.2	115.2	122.5
Personal income	PCE	60.3	72.8	100.0	108.7	121.1	130.4
Disposable personal income	CPI	63.2	74.6	100.0	109.4	113.7	121.1
Disposable personal income	PCE	64.2	74.2	100.0	110.0	119.5	128.9

[1] All numbers are in 1982 dollars, deflated by the indicated price index.

Source: Authors' calculations from U.S. Department of Commerce data.

The table suggests that by any measure, real income has risen very substantially over time. The growth of total per capita personal income is greater than the growth of per capita disposable personal income, since income taxes have absorbed a greater share of income over time. With all indicators, real per capita income approximately doubled from 1950 to 1985, suggesting average annual growth rates approaching 2 percent a year. One striking thing is that with all indicators, there are no periods of decline. Real income (however measured) per capita is always higher than at any

previous date included in the table. The evidence, then, clearly points to sustained economic progress.

Some writers, using different data, have observed a decline or at least a stagnation in income in the past decade or so.[1] The basic Department of Commerce per capita personal income data certainly do not support that view. Table 1-2 shows compounded annual rates of growth in personal income, variously measured, for the last three 5-year periods. There is no indication of decline or leveling off in real income. For the 1980-85 period, for example, the *smallest* annual growth rate is calculated to be 1.23 percent.

TABLE 1-2.—ANNUAL GROWTH RATES, REAL PERSONAL INCOME, 5-YEAR PERIODS, 1970-85

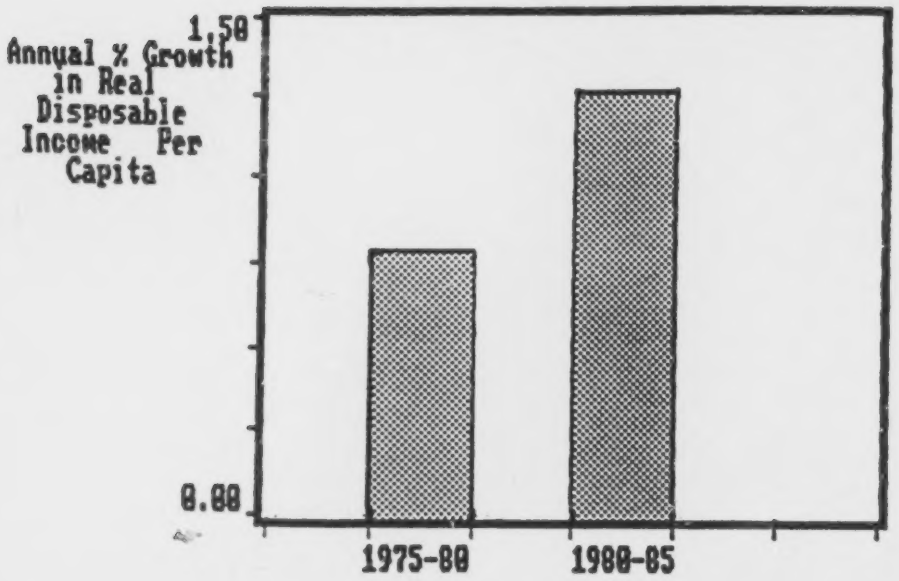
Type of income	Price index	1970-75	1975-80	1980-85
Disposable personal income	CPI	1.82	0.78	1.26
Disposable personal income	PCE	1.92	1.68	1.52
Personal income	CPI	1.58	1.27	1.23
Personal income	PCE	1.69	2.18	1.49

Source: Authors' calculations; see table 1-1 for basic data from U.S. Department of Commerce.

While income growth after 1970 clearly fell dramatically from the unusually high levels of the 1960's, the notion that growth rates are continuing to fall has at best limited support, and the notion income growth has stopped has no support whatsoever. Figure 1-1 shows how for disposable income, growth after 1980 was substantially *greater* than during the 1975-80 era, when prices are measured by the consumer price index (although they are slightly less when measured by the PCE price deflator). The notion that economic conditions are becoming more onerous for the American population finds no support in these figures.

[1] See, for example, Sheldon Danziger and Peter Gottschalk, "How Have Families With Children Been Faring?" (Washington, DC: Joint Economic Committee, Congress of the United States, November 1985) or their "Families With Children Have Fared Worst," *Challenge*, March/April 1986.

Figure 1-1: Real Disposable Personal Income Growth, 1975-80 and 1980-85



It is generally acknowledged that the goal of economic activity is consumption. Investment spending, while highly desirable, is not an end in itself, but rather is a means to increase our ability to purchase consumer goods in future time periods. Steel mills are useful, but only because processed steel can provide consumers with enjoyment, be it in the form of automobiles, refrigerators, videotape recorders, etc. Thus, real per capita consumption spending may well be the best single indicator of the economic welfare of a given population.

Table 1-3 shows trends in real per capita consumer spending, using the CPI as the basis for obtaining inflation-adjusted estimates. The table indicates real consumer spending rose continuously over time, with the rate of increase accelerating in the sixties, returning to 1950's growth rates in the early seventies, then slowing even more in the late seventies, a period when there was much talk about "the age of limits" and the necessity to reduce consumer spending for one reason or another. The early eighties has witnessed a revival of consumer spending growth at a level remarkably similar to that of the fifties and early seventies. While the recent spending growth record using the PCE price index is somewhat less favorable, it shows continued rising real consumer expenditures per capita, and no evidence of increasing economic hardship in the citizenry.

TABLE 1-3.—REAL CONSUMPTION EXPENDITURES IN THE UNITED STATES, 1950–85

Year	Real consumption per capita, 1982 dollars	Annual growth from previous date (percent)
1950	5,122	
1960	6,011	1.61
1970	7,823	2.69
1975	8,479	1.63
1980	8,985	1.17
1985	9,762	1.67

Sources: U.S. Department of Commerce and authors' calculations.

Trends in the Distribution of Income

It is generally believed that the overall level of economic welfare in a society depends not only on the average level of income, but also on the distribution of that income among the population. In part, this is because the satisfaction derived from an additional dollar of income may be greater for lower income persons than for the relatively well to do. While economists generally assume income is subject to such "diminishing marginal utility," that assumption cannot be empirically verified owing to our inability to precisely measure satisfaction. It may well also be true that individual satisfaction depends not only on absolute income levels, but on one's income relative to other persons.

The measurement of income inequality is not without its problems. Probably the single best measure of income inequality is the Gini coefficient. A Gini coefficient with the value of zero indicates perfect income equality—everyone has exactly the same income. A Gini coefficient equal to one indicates perfect income *inequality*—one person has all the economy's income, and everyone else has no income whatsoever.

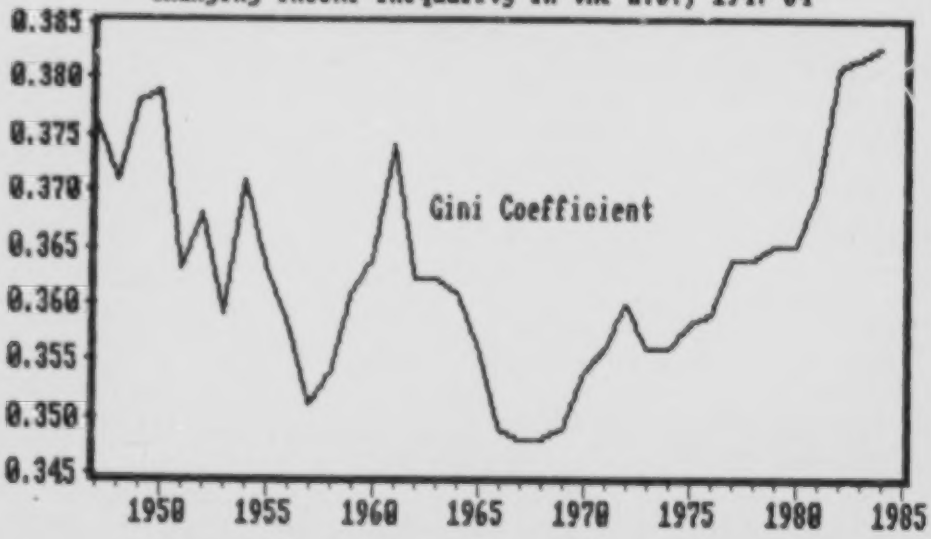
Gini coefficients of 0.50 or even higher have been recorded in many societies, and there is considerable evidence that in the early years of the American Republic, income was more unevenly distributed than today.[2] There is no question income inequality was markedly reduced from 1929 to 1947. Since 1947, the Gini coefficient has moved up and down within fairly narrow bounds, ranging between a low of 0.348 in 1967 to 0.383 (1984). Figure 1-2 illustrates the trends. The 1984 figure is only moderately higher than the

[2] We are particularly impressed with the historical work of Lee Soltow on both income and wealth. Soltow feels that income and wealth were more unevenly distributed in the early days of the Republic. See, for example, his "Economic Inequality in the United States in the Period From 1790 to 1860," *Journal of Economic History*, December 1971; "Evidence of Income Inequality in the United States, 1866–1965," *Journal of Economic History*, June 1969; *Men and Wealth in the United States, 1850–1870* (New Haven: Yale University Press, 1975); "Kentucky Wealth at the End of the Eighteenth Century," *Journal of Economic History*, September 1983; "Distribution of Income and Wealth," in Glenn Porter, ed., *Encyclopedia of American Economic History*, vol. 3 (New York: Charles Scribner's Sons, 1980); and other articles. Recent work using an extraordinary housing survey taken in the 1790's has reaffirmed Soltow's view that income and wealth inequality were far greater around 1800 than today.

The Soltow view, while widely respected, is not universally held. See, for example, Jeffrey G. Williamson and Peter H. Lindert, *American Inequality: A Macroeconomic History* (New York: Harcourt Brace Jovanovich for the Institute for Research on Poverty, 1980). For a balanced discussion, see Robert Gallman, "The Pace and Pattern of Economic Growth," in Lance Davis et al., eds., *American Economic Growth* (New York: Harper & Row, 1972).

0.379 recorded in 1950. It is essentially true that the measured Gini was unchanged in the third of a century from 1950 to 1984.

Figure 1-2
Changing Income Inequality in the U.S., 1947-84



That statement, however, ignores a clear downward tendency in the Gini (reduced inequality) from 1947 to 1967, followed by a rise in the Gini in most years from 1967 to 1984. The graph gives little support for those who associate changes in income distribution with the political party controlling the government. For example, many believe "Democrats help the poor while Republicans favor the rich." It is true that measured inequality fell during the administrations of Presidents Kennedy and Johnson, but is also true the sharpest 3-year drop in the Gini coefficient was during the administration of President Eisenhower. Similarly, while the Gini has risen since President Reagan took office, the rise is a continuation of a trend observed during the administration of his predecessors, Presidents Ford and Carter. It is very difficult to attribute trends in inequality to the political ideology of the administration controlling the executive or, for that matter, the legislative branch of government.

The reported changes in measured inequality significantly misrepresent true changes in the relative economic status of various income groups for two major reasons. First, the data exclude noncash payments, such as medicaid, food stamps, surplus food distributions, etc. Those payments are targeted, imperfectly to be sure, for lower income groups. Their exclusion from the Department of Commerce definition of income leads to an overstatement of income inequality. Moreover, the degree of overstatement has changed over time, being very little or none in the early years of figure 1-2, and relatively more substantial after the mid-1960's. It is entirely possible that if noncash payments were included, the reported rise in the Gini after 1967 would not be observed. Annual data on the value of noncash payments are not available except for

the period since 1979, and the precise distribution of these benefits is not completely clear. One thing *is* fairly certain: noncash payments are directed far less toward persons below the poverty line than is generally believed. In 1983, for example, *49.4 percent of households receiving one of the four major noncash benefits were above the poverty level.*[3] Those benefits were medicaid, reduced price school lunches, food stamps, and public housing. Also, *41.1 percent of households below the poverty level received no major noncash benefits.*[4] Even the most ardent defenders of current public assistance programs will concede the programs do not target the poor population with any precision.

A second reason why the reported income inequality data are highly misleading is that they fail to take account of major demographic shifts in the population that have tended to bias the trend in the Gini coefficient upward from what any reasonable concept of income inequality would suggest is appropriate. Over a lifetime incomes vary with age, even in the most militantly egalitarian societies. It is not only accepted that 5-year-old children have lower incomes than their 35-year-old parents, but that they *should* have lower incomes. While perhaps less universally accepted, most persons probably would think it reasonable that 80-year-old persons should have lower incomes than 50-year-old ones, if for no other reason than the 50-year-old persons are typically saving for retirement, whereas 80-year-old persons can afford to forgo saving (and perhaps dissave) because of limited life expectancy.

In a world where everyone had exactly equal lifetime incomes, there would be some observed income inequality at any given point of time because of what Meno Lovenstein has termed "senescent inequality"—variations in income solely related to age. Morton Paglin has created a Paglin-Gini coefficient that measures *non-age* related inequality.[5] Writing in the late 1970's, Paglin's data show no rise in the Gini after 1967. For example, while the unadjusted Gini coefficient rose between 1967 and 1975 by 0.010 (from 0.348 to 0.358), the Paglin Gini fell by 0.007 (from 0.245 to 0.238). This was because the proportion of the population in the inherently low-income groups (minors and persons over 65) increased markedly. As that proportion begins to decrease, the Paglin Gini should begin to rise even more than the unadjusted Gini coefficient. In other words, age-adjusted income inequality may have risen more than the official data suggest. Remember, however, that these data fail to take into account noncash incomes. Because of that, the magnitude of distributional changes in the past decade is not precisely certain. The trends in income inequality are further altered by looking at unrelated individuals. The discussion above is based on

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[3] See U.S. Bureau of the Census, *Current Population Reports*, series P–60, No. 148, and series P–70, No. 4, for more on noncash benefit programs.

[4] The pioneering work on the impact of noncash transfers on the income distribution was done by Edgar K. Browning. See his "How Much More Equality Can We Afford?" *The Public Interest*, spring 1976, or his "Trend Toward Equality in the Distribution of Net Income," *Southern Economic Journal*, July 1976. The impact of noncash payments in the distribution of the tax burden is taken up in Browning and William R. Johnson, *Distribution of the Tax Burden* (Washington, DC: American Enterprise Institute for Public Policy Research, 1979).

[5] Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," *American Economic Review*, September 1975. The Paglin paper provoked a large number of comments, and Paglin's reply, in the June 1977 issue of the *American Economic Review*.

family income, but the size and relative importance of families has changed over time. The trends in income inequality for "unrelated individuals" differ somewhat, raising the possibility that income distribution depends in part on the nature of living arrangements.

Table 1-4 explores changes in income inequality for six different groups over time. During the fifties, measured inequality decreased moderately for white families, but increased moderately for nonwhite families (for whom income inequality was already greater). Inequality grew sharply, however, for all groups of unrelated individuals. In the sixties, inequality declined for all groups, but most for unrelated individuals and nonwhites, the groups that had increased inequality the previous decade.

TABLE 1-4.—CHANGES IN INCOME INEQUALITY, 6 GROUPS OF THE POPULATION, 1950-83

Group	Gini coefficient and changes in Gini—								
	1949-51	1959-61		1969-71		1979-81		1984	
	Gini	Gini	Change	Gini	Change	Gini	Change	Gini	Change
All families	.373	.366	−.007	.353	−.013	.367	+.014	.383	+.016
White families	.362	.355	−.007	.345	−.010	.356	+.010	.371	+.015
Nonwhite families	.408	.415	+.007	.389	−.026	.415	+.026	.439	+.024
All unrelated individuals	.486	.513	+.027	.477	−.036	.438	−.039	.445	+.007
White unrelated individuals	.484	.508	+.024	.475	−.033	.431	−.044	.439	+.008
Nonwhite unrelated individuals	.462	.507	+.045	.469	−.038	.465	−.004	.474	+.009

Sources: U.S. Department of Commerce and authors' calculations.

During the seventies, measured inequality for families rose noticeably using the official figures (which, again excludes demographic shifts and noncash income), but inequality fell again for unrelated individuals, sharply for whites, very modestly for nonwhites. Since 1979-81 (3-year averages were used to minimize distortive effects of using a single year observation), inequality has risen for all groups, but more so for blacks and other nonwhites.

Trends in Poverty in America

While concern about the overall distribution of income is real, most observers would agree the most critical income inequality issue relates to the lower end of the income distribution; namely, the poor. The eradication of poverty would seem a laudable goal, and indeed in the 1960's, the Federal Government launched a "war" on poverty.

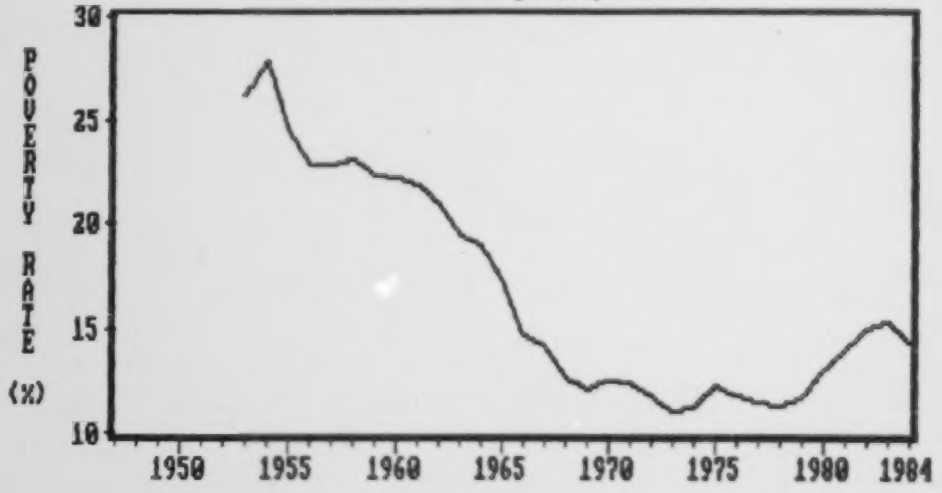
Poverty has been defined in many different ways. In some sense, poverty is a relative concept. People who would be considered "poor" in the United States might be considered well-to-do, even rich in Nepal or Haiti. Similarly, persons considered wealthy in Colonial America might be considered poor today. Accordingly, a case can be made for defining poverty in a relative sense. Victor Fuchs, for example, has suggested defining a poor family as one with an income less than one-half the median.[6]

[6] Victor Fuchs, "Redefining Poverty and Redistributing Income." *The Public Interest*, summer 1967.

An alternative approach to the definition of poverty proceeds from the assumption that a poor person is one who fails to have resources to buy a particular bundle of goods and services perceived necessary to have a minimally acceptable standard of living. It is an absolute definition of poverty, related to a particular income level. This is the approach adopted by the Federal Government in the 1960's when it defined poverty. Originally it was established that the poverty line for a family of four was approximately $3,000. Although there has been some refinement in the poverty definition, essentially the original approach is still used, with the poverty line redefined annually to take into account inflation, as measured by the consumer price index.

Figure 1-3 shows the trend in poverty (as defined by the Federal Government) since 1953. The rate fell steadily throughout the fifties and sixties, but has actually risen since the early seventies. Most of the modern decline in the poverty rate had already occurred by the mid-sixties, when the "War on Poverty" was declared as a matter of national policy.

Figure 1-2
The U.S. Poverty Rate, 1953-84

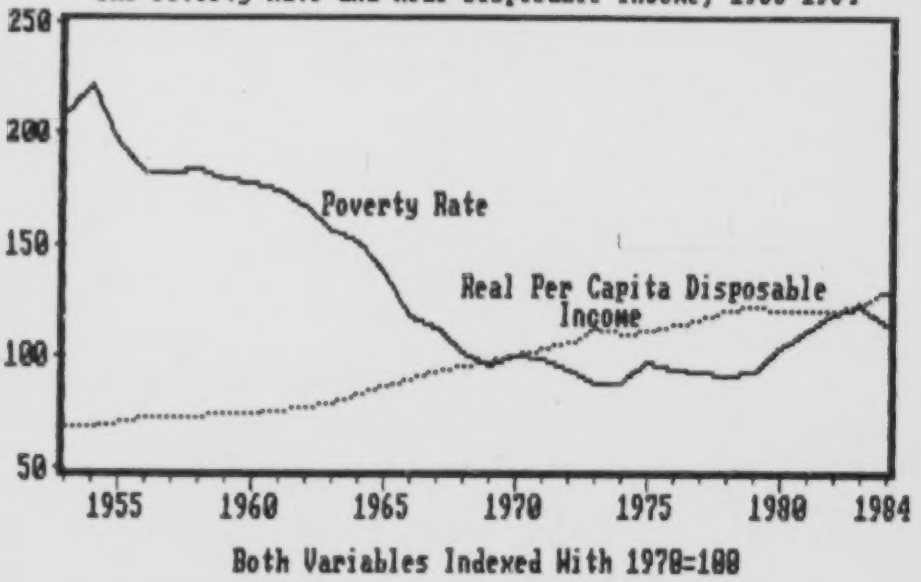


The absolute definition of poverty would seem to suggest that poverty should be gradually eliminated as economic growth occurs, since growth raises incomes of the population and, barring some dramatic shift in income distribution, this should push some poor persons above the poverty threshold. As indicated above, all of the standard income per capita measures show continued increases over time.

Figure 1-4 shows the relationship between the poverty rate and one measure of income growth, real disposable income per capita. It is observed that before about 1970, there was a clear tendency for the poverty rate to fall as the income level rose. Since 1970, however, the two curves have moved more parallel to one another, with continued increases in income levels not having a consistently negative impact on the poverty rate. Indeed, there are years when a rather perverse relationship occurred—poverty rose while real

disposable income per capita also rose. The breakdown in the traditionally strong negative association between the rate of poverty and the rate of economic growth is a subject which we will explore in coming pages.

Figure 1-4
The Poverty Rate and Real Disposable Income, 1953-1984



Trends in the aggregate incidence of poverty ignore important divergences in changes in the poverty condition of various groups within society. Tables 1-5 and 1-6 report a wide variety of poverty rates for 1984 classified according to age, race, family status, residence, etc. The variations are striking.

TABLE 1-5.—POVERTY RATES FOR VARIOUS COHORTS, UNITED STATES, 1984

Population characteristic	Number in poverty [1]	Percent of total poverty	Poverty rate [2]
Age:			
5 or under	5,114	15.2	24.0
6 to 15	7,018	20.8	20.7
16 to 21	3,954	11.7	16.5
22 to 44	9,886	29.2	9.4
45 to 64	4,398	13.1	9.9
65 and over	3,330	9.9	12.4
Race and Spanish origin:			
White	22,955	68.1	11.5
Black	9,490	28.2	33.8
Spanish origin (any race)	4,806	14.3	28.4
Sex:			
Male	14,537	43.1	12.8
Female	19,163	56.9	15.9
Region of residence:			
Northeast	6,531	19.4	13.2
Midwest	8,303	24.6	14.1
South	12,792	38.0	15.2
West	6,074	18.0	13.1

TABLE 1–5.—POVERTY RATES FOR VARIOUS COHORTS, UNITED STATES, 1984—Continued

Population characteristic	Number in poverty [1]	Percent of total poverty	Poverty rate [2]
Employment experience: [3]			
Worked 50 to 52 weeks	3,022	[4] 13.6	3.8
Worked 1 to 49 weeks	6,082	[4] 27.3	14.6
Did not work	13,115	[4] 59.0	22.1
Educational experience: [5]			
8 or less years	1,759	[4] 26.9	21.5
1 to 3 years high school	1,469	[4] 23.1	19.6
4 years high school	2,056	[4] 32.3	9.5
1 or more years college	1,075	[4] 16.9	4.8

[1] In thousands.
[2] Those below poverty line as percent of group.
[3] Population 15 years or over.
[4] As percent of relevant population.
[5] Of householders 25 years of age or more.

Source: U.S. Bureau of the Census, "Current Population Reports," series P–60, No. 149.

TABLE 1–6.—POVERTY RATES AND LIVING ARRANGEMENTS IN THE UNITED STATES, 1984

Living arrangement and population group	Number in poverty [1]	Percent of total poverty	Poverty rate [2]
Family status:			
All living in families	26,458	78.5	13.1
Related children under 18	12,929	38.4	21.0
Householder	7,277	21.6	11.6
Other family members	6,259	18.6	8.0
Unrelated individuals	6,609	19.6	21.8
Living in unrelated subfamilies	634	1.9	50.3
Living in families: Size:			
2 persons	[3] 2,283	[4] 31.4	9.0
3 persons	[3] 1,716	[4] 23.6	11.6
4 persons	[3] 1,516	[4] 20.8	11.4
5 persons	[3] 890	[4] 12.3	15.1
6 persons	[3] 458	[4] 6.3	21.0
7 or more persons	[3] 414	[4] 5.7	33.8
Families: Number of workers:			
No workers	[3] 2,934	[4] 40.4	31.8
White	[3] 1,823	[4] 37.1	23.7
Black	[3] 1,005	[4] 48.2	73.0
Hispanic origin: Any race	[3] 445	[4] 45.0	74.1
1 worker	[3] 2,822	[4] 38.9	15.9
White	[3] 1,911	[4] 38.9	12.7
Black	[3] 821	[4] 39.4	35.5
Hispanic origin: Any race	[3] 367	[4] 37.1	28.6
2 or more workers	[3] 1,502	[4] 20.7	4.3
White	[3] 1,179	[4] 24.0	3.8
Black	[3] 259	[4] 12.4	8.7
Hispanic origin: Any race	[3] 178	[4] 18.0	8.8
Families: Status of head:			
Married couples	[3] 3,488	[4] 47.9	6.9
Female head, no husband present	[3] 3,498	[4] 48.1	34.5
White	[3] 1,878	[4] 38.1	27.1
Black	[3] 1,533	[4] 73.2	51.7
Hispanic origin: Any race	[3] 483	[4] 48.7	53.4
Male head, no wife present	[3] 292	[4] 4.0	13.1

[1] In thousands.
[2] Those defined as poor as percent of the group.
[3] Families: Number of poor individuals is multiple of number.
[4] Based on family units, not individuals.

Sources: U.S. Bureau of the Census, "Current Population Reports," series P–60, No. 149; and authors' calculations.

It is clear that the incidence of poverty varies inversely with age. To a considerable extent, poverty is a young person's phenomenon, with almost half the poor being 21 or younger. Note the steady decline in poverty with increasing age until age 65 and over, when the poverty rate increases, but not dramatically. The age structure of poverty was not always this way, as will be discussed later.

Poverty is disproportionately greater among blacks and Hispanics, although more than two-thirds of the total poor are whites. Poverty is somewhat more prevalent among females, so there is some truth to the talk about the "feminization of poverty," although the female poverty rate is less than 25 percent greater than the male rate.

Regional variations in the poverty rate are likewise relatively small. Looking at four broad regions, there is less than a 25 percent variation from the area with lowest poverty, the West, and the area with the highest, the South. Again, this has not always been so, with the poverty rate in the South being much larger relative to other areas of the country.

The evidence regarding the poverty/work experience relationship presented in both tables suggests a powerful inverse correlation between work and poverty. Those that did not work in 1984 had nearly *six times* the incidence of poverty as those who worked year round. Some 40 percent of poor families had no one working. Among individuals over 15 living in poverty, some 59 percent did not work at all in 1984. Black and Hispanic poor were more likely not to work than whites. While the concept of the "working poor" has some validity, only a small minority of the poor worked on a continual basis. At the same time, however, in family settings it is fairly common to find two workers, especially among whites.

Poverty is also very clearly inversely related to education, since presumably more educated persons receive higher remuneration for work, and are less likely to become unemployed. It is interesting to note, however, that the poor are not as uneducated as a group as the common stereotype suggests. Nearly half of the poor adults are high school graduates, and more than one in six of them had some college education. Indeed, the average educational attainment of the poor as a group is not dramatically below that of the adult population as a whole. It is true, however, that poverty rates decline with educational attainment.

Living arrangements seem to have a major impact on poverty. Most poor persons (78 percent) live in families rather than alone or with other unrelated individuals. Poverty among those living outside family units, however, tends to have a much higher incidence than among those living within families, suggesting there is still a great deal of traditional intrafamily transfer of income in support of family members with limited means. Within families, poverty among traditional units with a married couple present is only about one-half the overall average poverty rate. By contrast, the poverty rate is precisely five times higher among families headed by females where no husband is present. Among both blacks and Hispanics, a majority of such families are in the poverty condition. A very large majority of poor blacks living in families live in a situation where a female runs the household without a male spouse.

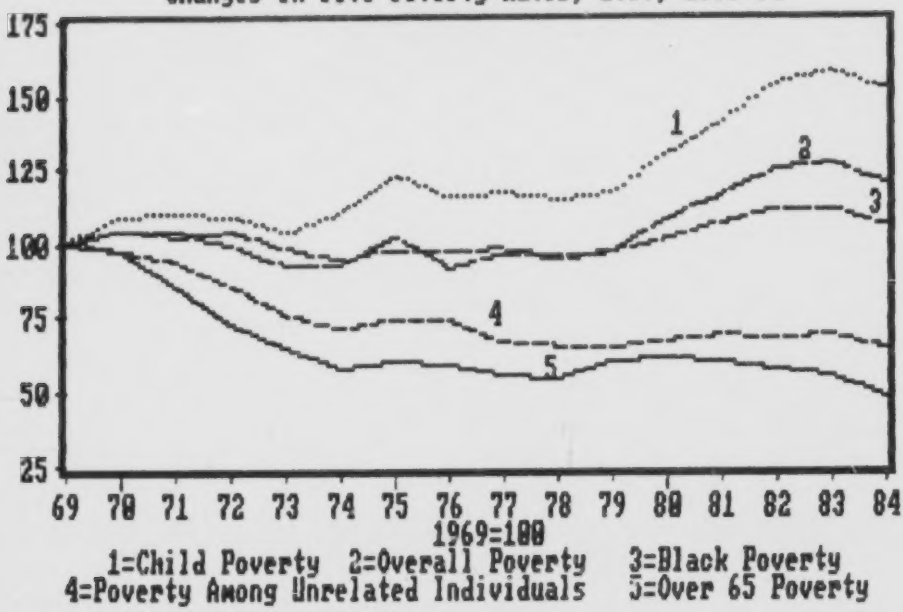
Poverty varies, perhaps not surprisingly, with family size. The larger the family, the greater the rate of poverty, because the income requirements to be not poor are greater the larger the family size. The incidence of poverty in families of seven or more is roughly three times as great as in three person families.

Tables 1-5 and 1-6 leave the overwhelming impression that two of the major "causes" of high levels of poverty are a lack of employment and a breakdown of the traditional family unit. Less than half of the families in poverty are of this "traditional" variety, and less than 14 percent of poor individuals over the age of 15 work on a regular basis. The stereotype of the modern day poor as persons who do not work and have nontraditional living arrangements would seem to have considerable validity.

To put things a bit in historical perspective, the characteristics of poor Americans have changed considerably over time. The incidence of poverty among various demographic groups has altered dramatically in just the last 15 years as figure 1-5 indicates. Setting the 1969 poverty rate for each of five groups equal to 100, we see the poverty rate for urelated children under 18 living in families has risen sharply, while the poverty rate for those over 65 and for unrelated individuals (a group that also includes many elderly) has fallen dramatically. The overall poverty rate, dominated by whites, has risen moderately, as has the incidence of poverty among blacks.

An important question emerges from figure 1-5. Why have we been relatively successful in reducing poverty among older Americans, while we have been spectacularly unsuccessful in reducing it among the young? This is a question we will address in greater detail in coming pages.

Figure 1-5
Changes in Five Poverty Rates, U.S., 1969-84



Recapitulating, real income levels for Americans, however measured, have risen continuously, with no evidence of recent slowdown. Through much of the postwar period, there was a move toward greater income equality, although the distribution of income may have become more unequal in the past decade. The precise magnitude of changes is uncertain because of various measurement problems. Poverty in America, officially defined, fell dramatically in the fifties and sixties but has actually risen since. Economic growth no longer seems to be as effective in reducing poverty. Poverty varies widely in its incidence, and is particularly prevalent in situations where persons are not working and where nontraditional living arrangements exist.

II. HAS THE ECONOMIC STATUS OF THE FAMILY DETERIORATED?

There has been a good deal written recently about the deterioration in the economic status of the family, particularly families with children. The most impressive evidence in this regards was accumulated by Sheldon Danziger and Peter Gottschalk in studies performed for the Joint Economic Committee. Condensed versions of the studies have been more widely disseminated.[1] Essentially Danziger and Gottschalk argue that families with children have witnessed very little change in real income since 1967, and an actual deterioration since 1973. The fruits of economic progress are not reaching the traditional American family.

While Danziger and Gottschalk cite impeccable statistics drawn from the Current Population Survey, in our judgment they misinterpret them and present a somewhat distorted picture of the economic status of the American family. In our reading of the data, in no meaningful sense has the economic status of persons living in American families deteriorated since 1967. At the same time, however, the Danziger and Gottschalk studies point out important changes in the American family and living arrangements, changes that may well have not been to the good.

According to Danziger and Gottschalk, the real family income of all families with children rose only 4.1 percent from 1967 to 1984, from $28,369 to $29,527 (in 1984 dollars). Moreover, all of the increase occurred before 1973; from 1973 to 1984, real family income of families with children declined 8.3 percent, from $32,206 to $29,527. For the 1973 to 1984 period, moreover, a decline is observed for nearly every demographic grouping examined.[2]

Table 2-1 shows the growth in real median and mean family and household income over time, using both the CPI and the PCE price index. The same years are examined as for personal income in the previous section, although 1985 data were not available for family and household income. The data show significant growth in household and family income, however measured, from 1950 to 1970. Using the CPI to deflate, the data show very little growth, but no decline, in median family income after 1970, but an actual decline in median household income. Using the PCE deflator, however, both real family and real household median incomes rise after 1970. Moreover, *both real family and real household median income are higher in 1984 than in 1980.*

[1] See Sheldon Danziger and Peter Gottschalk, "Families With Children Have Fared Worst," *Challenge*, March/April 1986.

[2] Ibid., p. 41.

TABLE 2-1.—REAL MEDIAN AND MEAN FAMILY AND HOUSEHOLD INCOME, UNITED STATES, 1950–84

Income measure[1]	Price index	1950	1960	1970	1975	1980	1984
Median income:							
Family	CPI	$14,321	$19,711	$26,394	$26,476	$26,500	$26,433
Family	PCE	13,715	18,487	24,917	25,080	26,279	26,433
Household	CPI	NA	NA	23,363	23,584	22,324	22,415
Household	PCE	NA	NA	22,056	21,572	22,138	22,415
Mean income:							
Family	CPI	16,444	21,849	29,965	30,012	30,232	31,052
Family	PCE	15,764	20,484	28,030	28,420	29,968	31,052
Household	CPI	NA	NA	26,752	26,592	26,551	27,464
Household	PCE	NA	NA	25,255	25,190	26,329	27,464

[1]Per capita in 1984 dollars.

Sources: U.S. Department of Commerce, Bureau of the Census, "Current Population Reports," series P-60, No. 151; and authors' calculations.

Therefore, it would appear to us the Danziger-Gottschalk (henceforth D–G) interpretation is somewhat exaggerated. In three of four measures median real incomes are higher in 1984 than in 1970, and higher in 1984 than in 1980. It is hard to conclude from that that there has been a real decline in the economic status of a typical American family or household.

Why the discrepancy between the D–G interpretation and ours? There are two factors: choice of dates used in the comparisons, and the choice of price indices. We choose 5- or 10-year intervals, while D–G apparently picked years based on the business cycle. D–G use 1973 as their base year; 1973 was a boom year, with under a 5 percent unemployment rate. *All* the observed decline in real median family income from 1973 to 1984 occurred in the 2 years 1973 to 1975, reflecting the 1974–5 recession. Also, the use of the PCE price index leads to greater growth rates over the past few years.

Even abstracting from issues of dating and price indices, the increase in real median family/household income has been dramatically slower in recent years than earlier in history, and dramatically less than the growth in per capita real personal income, real per capita disposable personal income, or real per capita consumption. Why?

Part of the answer, but only part of the answer, relates to the difference between *average* or mean income levels and "median" income levels. The median is a measure of central tendency that represents a point at which half the observations are less, and half more than the median figure. Extremely high or low observations (income levels in this case) do not have a large impact on the calculation of the statistic. By contrast, the arithmetic mean, or average, is calculated in a fashion where extreme observations have a large weight in the statistic's determination. In the present context, an increase in the presence of very high or very low income Americans could alter the statistic relative to the median.

To a modest extent, this has happened. For example, median real family income calculated using the CPI fell 0.25 percent from 1980 to 1984, but *mean* real family income calculated with the CPI rose 2.71 percent. This reflects a modest increase in the skewness of the income distribution as the proportion of income received by higher

income Americans increased somewhat (which elsewhere we have argued reflects the increased incentives to earn and report income as a consequence of the 1981 tax reduction). As it became more profitable for the rich to earn money as marginal tax rates were reduced, the rich increased their earnings more than other income groups for whom the tax cut had less of a positive incentive effect.[3] This issue is explored in greater detail in subsequent pages.

In part the growing gap between mean and median incomes may be an artifact, a reflection of the fact that an increasing proportion of the income of the poor has been in the form of noncash payments not reflected in the statistics. For example, looking at families from 1966 to 1984, the percent of total money income received by the lowest 20 percent fell from 5.6 to 4.7 percent, but the growth of noncash payments to the poor may mean the real income decline to that group was less. Nonetheless, we would agree with Danziger and Gottschalk that a falling share of income among poorer Americans is a phenomenon deserving examination.

Another important reason why the reported lack of growth in family or household income is somewhat misleading is that over time the average size of families and households has fallen. With respect to families, the average size has gone from 3.54 in 1950 to 3.23 in 1984, a decline of nearly 9 percent. For households, the decline is even more dramatic, from 3.37 in 1950 to 2.69 in 1984, a 20 percent reduction. Since household or family income has to provide for fewer persons than previously, any evaluation of the economic status of the family needs to take that into account.

One way to account for the declining size of families and households is to look at income per family or household member over time. Table 2–2 does that for both families and households using the PCE deflator to correct for inflation. It shows continual growth in income values, however measured, in the seventies and early eighties, although the growth rates are slower than for the fifties or sixties. Using the measure of central tendency used in calculating growth rates, the mean, we observe real household income growth per household member of nearly 5.9 percent from 1980 to 1984, an annual growth rate of 1.44 percent a year, not far below the growth rate of real per capita income observed. Moreover, this is a far cry from the actually slightly negative growth rate after 1980 calculated using median family income deflated by the CPI deflator.

TABLE 2–2.—REAL INCOME PER FAMILY AND HOUSEHOLD MEMBER, UNITED STATES, 1950–84

Year	Families		Households	
	Median income per capita [1]	Mean income per capita [1]	Median income per capita [1]	Mean income per capita [1]
1950	$3,874	$4,645	NA	NA
1960	5,037	5,953	NA	NA
1970	6,960	8,370	$7,024	$8,043
1975	7,333	8,775	7,337	8,568

[3] See Richard Vedder and Lowell Gallaway, "Soaking the Rich Through Tax Cuts," *Wall Street Journal*, Mar. 21, 1985, p. 30.

TABLE 2-2.—REAL INCOME PER FAMILY AND HOUSEHOLD MEMBER, UNITED STATES, 1950-84—Continued

Year	Families		Households	
	Median income per capita [1]	Mean income per capita [1]	Median income per capita [1]	Mean income per capita [1]
1980	7,988	9,189	8,109	9,644
1984	8,184	9,614	8,333	10,210

[1] In 1984 dollars using the PCE price deflator

Source: Authors' calculations from Department of Commerce data

As Danziger and Gottschalk's analysis points out, the examination of aggregate income analysis often disguises important disparities in trends among subgroups of the population. In particular, there is some strong evidence in the poverty statistics that children have had their economic status deteriorate relative to adults. It is interesting in this regard to compare 1966 and 1984. In 1966, the War on Poverty was in its infancy and the family poverty rate, 13.2 percent, was almost identical to that in 1984 (13.1 percent). Since 1966, however, there has been a very significant decline in the poverty rate for adults living in families, while the poverty rate for related children under 18 living in families has increased by over 21 percent, going from 17.3 to 21.0 percent.[4] In 1966, the poverty rate among children under 18 was 44 percent larger than among adult heads of households; in 1984, the child poverty rate was some 81 percent larger.

Poverty among children is derivative from the economic condition of adults, usually parents or guardians. Any attempt to explain rising poverty among children in families should look at characteristics of the head of the poor household. Comparative historic data show dramatic changes in the work experiences of household heads. In 1959, before the War on Poverty, only 30.5 percent of household heads did not work at all during the year. By 1970, after the War on Poverty was well underway, some 44.0 percent of household heads of poor families did not work at all, a dramatic increase. In 1984, 50.8 percent of heads of poor families did not work. In 1959, there were 2.3 times as many poor household heads who worked as did not; by 1984, the nonworkers outnumbered the workers.[5]

Closely associated with the sharp decline in work experiences among the poor was the growing importance of female headed households in the poverty population. In 1959, only 23 percent of poor families were headed by females; by 1970, that proportion had grown to 37.1 percent. In 1984, some 51.3 percent of poor families were headed by women. It is here that the term "feminization of poverty" indeed has some meaning. Moreover, in over 93 percent of the female headed households, there was no husband present. The rise in child poverty is intimately associated with a sharp increase in households where no father is present and where there is rela-

[4] For greater detail, compare U.S. Department of Commerce, *Current Population Reports*, series P-60, No. 55 and No. 151.

[5] The statistics are based on Department of Commerce data as reported in various issues of *Current Population Reports*, series P-60.

tively little if any work related activity. We will explore the reasons for these developments later in this study.

Summarizing, the economic status of the family has not deteriorated since 1973, as indicated by Danziger and Gottschalk. Rather, statistics correcting for changing family or household size and using perhaps more appropriate indices of inflation suggest significant real growth has occurred.[6] The aggregate statistics mask continued poverty among many families, and the failure of family poverty to materially change from 1966 to 1984 in the wake of economic growth is a matter of just concern. Child poverty within families actually rose over this 18-year period. The rise in child poverty was closely associated with a decline in work activity in poor households and a sharp increase in the proportion of households without a husband present.

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[6] An important additional reason family/household income has risen less than personal income per capita is that the Current Population Survey data used in calculating family income *exclude* fastgrowing noncash forms of income such as food stamps and Medicaid. See Paul Ryscavage, "Reconciling Divergent Trends in Real Income," *Monthly Labor Review*, July 1986. *All* Census income data may be subject to growing underreporting errors. See Lee Lillard, James P. Smith and Finis Welch, "What Do We Really Know About Wages? The Importance of Nonreporting and Census Imputation," *Journal of Political Economy*, June 1986.

III. REGIONAL INCOME TRENDS

The discussion to this point has suggested that economic growth has continued in the United States in recent years and that most Americans have shared, at least to some extent, in that growth. We have largely rejected the pessimistic view that economic growth has not affected large segments of the American public, acknowledging, however, that economic growth has not seemed to ameliorate poverty in recent years in the same manner it once did.

The possibility exists, however, that the fruits of economic progress have been unevenly distributed spatially, so that citizens in some sections of the country have prospered while others have not. A study for this Committee, using recent regional personal income data, suggested that this was the case.[1] There is no question that any examination of the growth in personal income per capita by State since 1980 will show very significant variations in performance. Yet, interpreting the recent data without a historical perspective can lead to misleading conclusions.

Our examination of personal income data by State suggests:

(1) Economic growth since 1980 has been far greater in the Atlantic coastal States than in other parts of the country; this is broadly consistent with the aforementioned study of this Committee.

(2) Only one State has had meaningfully negative (more than 2 percent) real per capita income decline since 1980; that State, Wyoming, is the Nation's second smallest State, containing less than one-fourth of 1 percent of the U.S. population.

(3) While a number of other States have not had meaningfully positive (over 2 percent) real per capita income growth over the past 5 years, collectively they contain less than 9.4 percent of the U.S. population. Put differently, 90.6 percent of the population lives in States where real per capita income in 1985 was significantly higher than in 1980.

(4) States that had high growth rates in the seventies have tended to have relatively low growth rates in the eighties, and vice versa. The 1980's experience may be viewed as a correction for inequalities developed in the 1970's. The longer term (1970–85) variation in growth rates is far smaller than the variation observed for either the 1970–80 or 1980–85 period.

(5) A major factor in changing relative economic performance has been changes in the "terms of trade" between areas. In particular, changes in relative prices of energy (especially petroleum) play an important role in explaining both the 1970's and 1980's growth experiences. This is not to deny, how-

[1] "The Bi-Coastal Economy," staff study (Washington, DC: Joint Economic Committee of Congress, photocopied, July 1986).

ever, that other factors, such as State and local tax policies, also play an important role in explaining growth differentials.

Changing Regional Income Patterns Since 1980

There are many different ways to classify States into regions for the purpose of making interregional comparisons. There has been much talk lately about the "coastal regions," so we have designated three such regions in our analysis: the Atlantic coastal region, Gulf coastal region, and Pacific coastal regions. States included in each region all border on the relevant body of water, with Florida, which borders both the Atlantic Ocean and the Gulf of Mexico, being placed with the Atlantic States. Some 23 States are in these regions. The other 27 States plus the District of Columbia are all in the Nation's "interior," some far more so than others. All 12 States of the Midwest are interior States, and we accordingly include them in a separate region. The other 15 States plus the District of Columbia are scattered all over the country, some being in the West, some in the South, and some in the East.

Table 3-1 shows the unweighted mean growth in real income per capita of the States constituting each of the five designated regions. As can be seen, growth was far more substantial in the Atlantic coast States than in any of the other regions. However, all regions have positive growth rates. It should be noted that every one of the 14 States in the Atlantic region had a growth rate in excess of the national average. Every Gulf and Pacific State, by contrast, had growth less than the national average. In the other regions, the growth experience was mixed.

TABLE 3-1.—UNWEIGHTED AVERAGE REAL PER CAPITA INCOME GROWTH, 1980–85

Region	Number of States	Unweighted Average Real Per Capita Income Growth (percent)
Atlantic Coastal	14	15.61
Gulf Coastal	4	4.15
Pacific Coastal	5	2.77
Midwest	12	8.30
Other Interior [1]	16	4.92

[1] Includes District of Columbia.

The experience of the 1970's was dramatically different, as Table 3-2 shows. The Atlantic coastal States lagged well below the national average. Growth in the Gulf and Pacific States averaged above the national average, as it did in the "other interior States." In each of these cases, regions which grew faster than the average State growth rate in the 1970's grew slower in the eighties, and vice versa. The Midwest was almost precisely at the national average in both periods, being the region that most closely mirrors that national average performance.

TABLE 3-2.—RELATIVE ECONOMIC PERFORMANCE OF U.S. REGIONS, 1970-80 AND 1980-85

Region	Relative Growth Index	
	1970's	1980-85
Atlantic Coastal	79.4	190.8
Gulf Coastal	139.1	50.7
Pacific Coastal	101.3	33.9
Midwest	100.2	101.5
Other Interior	107.7	60.1

Unweighted mean of real per capita personal income growth for the region's States, divided by the national average unweighted real per capita personal income growth for the 50 States plus the District of Columbia, multiplied by 100. An index of 100 indicates performance at the national average.

Source: Authors' calculations from U.S. Department of Commerce data.

The use of regional classifications can disguise patterns arising intraregionally. We did calculate the correlation coefficient between the 1970's income growth rate for the 50 States plus the District of Columbia and the 1980's income growth for the same areas. The correlation was a *minus* 0.44, suggesting that States that grew relatively fast in the seventies typically grew relatively slowly in the eighties. The negative relationship was statistically significant at the 1 percent level.

Some caution should be used in interpreting these findings. For example, Table 3-2 indicates growth in the Midwest equaled, and indeed modestly exceeded, the national average during both the seventies and early eighties. In large part, however, that reflects the high economic growth of a few relatively small farm States in the west north-central area. The more populous industrial States (e.g., Illinois, Indiana, Ohio, and Michigan) all grew less than the national average in both decades, although the growth was consistently positive in all these States in both time periods.

An alternative way to group States is by economic similarity rather than geographic location. One factor that has received great attention in explaining economic phenomena in the past decade or so has been energy—its availability, price, etc. Accordingly, we defined seven clearly energy-exporting States—major producers of petroleum or other fuels. States selected included: Alaska, Louisiana, New Mexico, Oklahoma, Texas, West Virginia, and Wyoming. All except West Virginia are major petroleum producers. Similarly, we defined eight States that are clear energy-importers, producers of only minor quantities of petroleum or other fuels. The States selected are eight Northeastern States including the six New England States plus New York and New Jersey.

Table 3-3 observes that the energy-producing States had relatively high growth rates in the seventies and low growth in the eighties, while the opposite is true of the energy-importing States. The trends seem to be reasonably consistent with changes in the relative price of fuels, particularly petroleum. In the seventies, the price of oil roughly doubled relative to prices generally; in the eighties, they grew until 1981 and then began to decline. Net consumers of petroleum in the Northeast suffered in the seventies when the prices of their exports fell relative to the prices of their imports (e.g., oil), but benefited during the eighties when import prices fell relative to export prices.

TABLE 3-3.—RELATIVE ECONOMIC PERFORMANCE, ENERGY IMPORTING AND EXPORTING STATES, UNITED STATES, 1970–80 AND 1980–85

Economic statistic	Net energy importing States	Net energy exporting States
Relative income growth, 1970–80 [1]	69.3	149.0
Relative income growth, 1980–85 [1]	223.0	12.7
Relative price of crude petroleum [2] 1970, 96.2; 1980, 225.1; and 1985, 211.0		

[1] Unweighted mean of the growth rates of the involved States divided by unweighted mean of the growth rates of all 50 States and the District of Columbia, multiplied by 100; 100 equal national average growth in real per capita income.

[2] Producer price for crude petroleum (1967 = 100) divided by the producer price index for all finished goods, multiplied by 100.

Sources: Income growth: Bureau of the Census; prices: U.S. Department of Labor, Bureau of Labor Statistics.

Looked at in longer term perspective, things tend to even out. The fastest growing State in the Union in the seventies, Wyoming, was the slowest growing in the eighties (through 1985). Over the longer period 1970–85, its growth is just slightly over the national average. This long term "regression toward the mean" is found in the slow growing States of the seventies as well. Consider a Northeastern State, say, New Jersey. In the seventies, it grew less than half as fast as most energy producing States; in the eighties, it has grown far faster; its 1970–85 growth is very close to the national average and the growth rate for previously "high flying" Wyoming.

A measure of the dispersion of growth rates is the coefficient of variation (the standard deviation divided by the mean). During the seventies, the coefficient of variation was 0.312. In the 1980–85 period it was a higher 0.861, suggesting more variability in growth. Yet over the whole period 1970–85, that coefficient is a relatively low 0.256. Price shocks (or other shocks) that temporarily give a region an advantage or disadvantage tend to reverse or be offset in the long run. Resources move in response to any advantages introduced by the shocks, reducing their initial impact.

The above discussion is not a comprehensive treatment of the determinants of interstate income differentials. Its sole purpose is to demonstate that growth variations in the eighties in some sense were corrective of marked differentials created in the seventies, largely from price shocks. Other factors have long-term growth effects, such as State and local policy.[2] There is nothing, however, in the recent growth experience that suggests some regions of the country are being denied the fruits of economic progress in any meaningful long-term sense.

[2] See, for example, the staff study for this Committee by Richard K. Vedder, "State and Local Economic Development Strategies: A Supply-Side Perspective" (Washington, DC: U.S. Government Printing Office, 1981).

IV. TAX STRUCTURE AND TAX BURDEN

One of the major determinants of the degree of economic equity in a society is the relative burden of taxation borne by people with differing incomes. Historically, the basic thrust in 20th century America has been in the direction of imposing a larger tax rate on people with high incomes, apparently in the belief that this method of taxation will assure a more unequal tax burden in the country. If the taxable income producing activity of individuals is independent of the rate at which such activity is assessed, one cannot argue with such a line of reasoning. However, the independence assumption does not square with a large body of empirical evidence. It seems quite clear at this time that there are "dynamic" effects at work where the taxation of income is concerned that call into serious question the premise that higher rates of taxation on large incomes will lead to a more unequal distribution of the tax burden in an economy.

The Historical Record

There has been a remarkable amount of variation in the pattern of income taxation in the United States since the inception of the Federal income tax in 1913. By the end of World War I the maximum marginal tax rate had escalated to 77 percent from an initial level of 7 percent.[1] It fell to 73 percent from 1919 through 1921 and then declined during the 1920's when, at the urging of Secretary of the Treasury, Andrew Mellon, it was reduced in a series of tax reductions until it stood at 24-25 percent. The effects of the Mellon tax cuts are well documented.[2] They produced a substantial redistribution of the burden of the Federal income tax in the direction of making it more unequal, i.e., shifting the burden toward those at the high end of the income distribution.

Nevertheless, the lessons of that experience went largely unheeded. During the years of the Great Depression, the maximum marginal tax rate returned to the vicinity of the pre-Mellon tax cut days, peaking at 81.1 percent in 1940. From then through the early 1960's, the maximum marginal tax rate was never less than 81 percent and was as high as 94 percent. Beginning in 1964, it was cut back to 70 percent in a series of steps that became known as the Kennedy-Johnson tax cuts. The philosophy underlying this reduction in tax rates was quite succinctly stated by President Kennedy:[3]

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[1] For a description of the history of maximum marginal tax rates in the United States, see U.S. Department of Commerce, *Historical Statistics of the United States* (Washington, DC: U.S. Goverment Printing Office, 1974).

[2] See, e.g., Christopher Frenze, *The Mellon and Kennedy Tax Cuts: A Review and Analysis*, Staff Study, Joint Economic Committee of Congress (Washington, DC: U.S. Government Printing Office, 1982).

[3] Speech to the Economic Club of New York, Dec. 14, 1962.

> Our true choice is not between tax reduction, on the one hand, and the avoidance of large federal deficits on the other. It is increasingly clear that, no matter what party is in power, as long as our national-security needs keep rising, an economy hampered by restrictive tax rates will never produce enough revenue to balance the budget—just as it will never produce enough jobs or enough profits. In short, it is a paradoxical truth that tax rates are too high today and tax revenues are too low—and the soundest way to raise revenues in the long run is to cut tax rates now.

These reductions produced outcomes very similar to those observed in the wake of the Mellon round of tax cuts.[4] Again, though, past experience was ignored by a host of commentators when a further reduction in maximum marginal tax rates was legislated in 1981. Under the Economic Recovery Tax Act (ERTA) of that year, the maximum marginal tax rate on personal income was reduced to 50 percent. This legislation was widely viewed as being a "rich man's" tax cut and a rather heated debate in the media, congressional hearings, and technical journals ensued.[5]

Our interpretation of the evidence developed during this controversy is that the post-1981 experience is quite consistent with earlier historical developments. A good summary of the nature of that historical experience is contained in a Joint Economic Committee study conducted by Professor Vedder and Philippe Watel.[6] Using standard econometric techniques, data for the period 1954–82 are analyzed. The results indicate that the elasticity of income tax revenues with respect to the maximum marginal tax rate is a *negative* 0.75 for those at the very top of the income distribution.[7] This implies that a reduction in marginal tax rates will generate an *increase* in tax revenues, other things held equal.

New Data Sources

Just recently, data have become available from the Department of the Treasury which describe the relative income tax burdens in the American economy for various years by percentiles of those who filed tax returns, where the percentiles are determined by the adjusted gross income reported on the tax return.[8] These data have the advanage of being based on exact counts of tax returns for purposes of determining the various percentile demarcations. This resolves one area of contention in the interpretation of previous data sets where various interpolative techniques had to be used to identify percentile groupings.

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[4] See Frenze, op. cit., for details.

[5] The nature and scope of the debate is described in Richard Vedder and Lowell Gallaway, "The Changing Burden of the Federal Individual Income Tax, 1981–1983," *Tax Notes*, Mar. 25, 1985.

[6] Richard K. Vedder and Philippe Watel, *Tax Avoidance, Tax Equity, and Tax Revenues: The Impact of Marginal Income Tax Rate Changes in the United States 1954–1982*, Study prepared for the Joint Economic Committee, Congress of the United States, 98th Cong., 2d sess. (Washington, DC: U.S. Government Printing Office, 1984).

[7] Ibid., pp. 11–13. The definition of an upper income group is $50,000 annual income *in 1967 prices*.

[8] This information has been supplied to the authors by the staff of the Joint Economic Committee of Congress.

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This data source also is useful in that it provides information for selected years beginning with 1949. For our purposes the critical data is that describing the tax shares, or tax burden, by percentile groupings. Table 4-1 summarizes the pertinent figures for the years 1949, 1959, 1969, and 1981-84. At first glance, the most striking feature of the data is the behavior of the tax share at the extremes of the distribution. At the high end, the top 1 percent of income earners, the tax share stands at 31.69 percent in 1949, falls to a minimum of 18.05 percent in 1981, and then rises to 21.34 percent in 1984. At the other extreme, in the bottom half of the adjusted gross income distribution, the share of income taxes falls rather consistently in the post-World War II period, from 13.95 percent in 1949 to the low 7 percent range in the 1980's.

TABLE 4-1.—PERCENTAGE SHARE OF FEDERAL INCOME TAX PAID, BY PERCENTILE, DISTRIBUTION OF ADJUSTED GROSS INCOME, VARIOUS YEARS, UNITED STATES, 1949-84

Percentile, adjusted gross income	Percentage share of income tax paid in						
	1949	1959	1969	1981	1982	1983	1984
Top 1	31.69	22.36	19.97	18.05	19.41	19.93	21.34
2nd to 5th	13.09	16.16	15.56	16.89	16.62	17.31	17.87
6th to 10th	9.23	10.59	11.90	13.31	12.36	12.59	11.72
11th to 25th	15.40	20.52	22.36	23.98	24.03	23.29	22.85
26th to 50th	16.64	19.72	20.48	20.32	20.23	19.71	18.91
51st to 100th	13.95	10.65	9.73	7.45	7.35	7.17	7.31

Source: U.S. Department of the Treasury.

A similar pattern at the upper end of the income distribution is identified if we define it as consisting of the top 5 percent of adjusted gross incomes. In 1949, this group accounted for 44.78 percent of tax collections. By 1981, this had declined to 34.94 percent and it subsequently rose to 39.21 percent in 1984.

Taxpayer Behavior at Top of the Income Distribution

The most recent (1981-84) patterns of movement in the distribution of the burden of the Federal income tax in the United States are remarkably consistent with the previously described responses of high income individuals to changes in maximum marginal tax rates. The detailed information provided in the Treasury Department data shows that, between 1981 and 1984, the tax payments of the top 1 percent of the income distribution rose *over four times faster than did tax collections in the aggregate.* The increase among the top 1 percent was 25.1 percent compared to a 6.0 percent increase over all. And, this occurred despite a decline in the effective tax rate for the top 1 percent that was over twice as great as the population wide drop (4.25 percent compared to 1.94 percent).

This differential pattern of change in tax receipts produced by the upper end of the income distribution generated a reduction in the degree of equality (an increase in inequality) in the distribution of the tax burden. Between 1981 and 1984, the amount of equality in the tax burden distribution, as measured by a Gini coefficient, *decreased by 4.8 percent.* The tax burden Gini coefficients for the years 1981-84 are shown in Table 4-2.

TABLE 4–2.—GINI COEFFICIENTS, DISTRIBUTION OF TAX BURDEN BY ADJUSTED GROSS INCOME, UNITED STATES, 1981–84

Year	Gini coefficient
1981	.6200
1982	.6235
1983	.6318
1984	.6381

Sources: U.S. Department of the Treasury, and authors' calculations.

The Changing Position of the "Middle" Class

There is a second important implication of the Treasury tax data. They clearly imply a profound set of changes in the economic status of the "middle" class in America. It is always difficult to operationally define what is meant by the "middle" class. However, if we view it as consisting of those percentile groupings of the adjusted gross income distribution between the 5th and the 50th percentiles, some startling patterns of movement in relative tax burdens can be identified. Table 4–3 provides a regrouping of the basic Treasury information into three categories, the top 5 percent, the 6th to 50th pencentiles, and the 51st to 100th percentiles. Of course, the second of these groups is what we will call the "middle" class.

TABLE 4–3.—PERCENTAGE SHARE OF FEDERAL INCOME TAX PAID, BY PERCENTILE, DISTRIBUTION OF ADJUSTED GROSS INCOME, VARIOUS YEARS, UNITED STATES, 1949–84

Percentile, adjusted gross income	Percentage share of income tax paid in				
	1949	1959	1969	1981	1984
Top 5	44.78	38.52	35.53	34.94	39.21
6th to 50th	41.27	50.83	54.74	57.61	53.48
51st to 100th	13.95	10.65	9.73	7.45	7.31

Source: U.S. Department of the Treasury.

Between 1949 and 1981, a remarkable transformation in the tax status of the "middle" class occurred. At the outset of the post-World War II era, this portion of the population contributed 41.27 percent of tax revenues. In 1981, their share had risen to 57.61 percent, *an increase in their relative tax burden of almost 40 percent.* In the interval 1949 to 1981, the "middle" class was progressively "squeezed" by the twin pressures of inflation induced "bracket creep" and a persistent tendency to redesign the income tax system in a fashion that reduced the tax burden at the bottom of the income distribution. Remember, the tax share of the bottom half of the income distribution falls consistently in the post-World War II period.

Since 1981, though, there has been something of a reversal in this pattern. The tax share of the "middle" class has fallen to 53.48 percent, recovering one-fourth of the losses incurred between 1949 and 1981. And, this has not been accomplished at the expense of those at the bottom of the adjusted gross income distribution. The tax share of the bottom 50 percent actually fell slightly, from 7.45

to 7.31 percent. All of the shifting of tax burden has been in the direction of increasing the tax share of the upper 5 percent of the income distribution. Thus, if one were to attempt to characterize the Economic Recovery Tax Act of 1981 in terms of who it benefited in a tax distribution sense, the phrase " 'middle' class revolution" would not be inappropriate.

Conclusions

At a point in time when tax reform is a major subject of current discussion, the lessons learned from the totality of our past experience and, in particular, from our more recent excursions into the realm of changing the tax system, are of particular importance. The message from the data seems clear. Reductions in the maximum marginal tax rates in the economy have the impact of disproportionately stimulating taxable income generating activity at the very top of the adjusted gross income distribution. Such increases offer the potential for relieving the "middle" class in America of the increasing tax burden that it was forced to assume in the years 1949–81. It should not go unnoticed that in 3 short years, under the regime of the lowest maximum marginal tax rates since the Mellon years, the "middle" class has been able to recover a very significant portion of the losses it has suffered at the hands of a tax system that consistently shifted the burden of taxation toward them. Certainly, the evidence seems incontrovertible that the major beneficiary of the 1981 cut in the maximum marginal tax rate was the "middle" class.

V. THE WAR ON POVERTY: ANATOMY OF A FAILURE

An extremely important dimension of the pattern of income distribution in the economy is the incidence of very low incomes, commonly called poverty. The issue of poverty emerged in a "new" form in the early years of the decade of the 1960's, in a sense, being rediscovered at that time. After the depressed economic conditions of the 1930's, the post-World War II era had been one of relative prosperity. However, *circa* 1960, it began to be seriously argued that poverty in the United States could no longer be reduced effectively by relying solely on the normal processes of economic growth.[1] The thrust of this argument was that there was a growing class of people in the United States who, increasingly, found themselves divorced from the mainstream of American economic activity.

The public policy implications of this notion, which came to be known as the "structural poverty" hypothesis, are diverse. On the one hand, it can be used to argue for the establishment of a variety of special programs designed to eliminate the unique handicaps of the "structurally" poor. Such an approach presumes that the objective of public policy is to make the benefits of economic growth available to the poor through increasing their access to the labor market. However, there is an alternative interpretation of the meaning of the "structural poverty" thesis for the design of economic policy. It can be used in a negative fashion to deny the possibility that the poor can be moved into the mainstream of economic life. This would suggest that the only effective way to help the great mass of the poor is through direct money income transfers to them.

These alternative interpretations of the significance of the "structural" hypothesis have imparted a certain schizophrenic quality to public policy with respect to the elimination of poverty. At times, especially in the early years of what was christened "The War on Poverty," the positive interpretation dominated and the thrust of public programs ostensibly was oriented toward eliminating the "handicaps" faced by the poor, those factors that were creating "structural" poverty. A reading of the *Economic Report of the President* transmitted to the Congress in January 1962 confirms this emphasis. The pertinent sections of the report speak of people, "whose poverty is barely touched by * * * improvements in general economic activities." [2] It goes on to note that, "To an increasing

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[1] Representative works arguing this position are John Kenneth Galbraith, *The Affluent Society* (Boston: Houghton Mifflin, Co., 1958) and Michael Harrington, *The Other America* (New York: Macmillan, 1962).

[2] *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1962, p. 9).

extent, the poorest families in America are those headed by * * * people who are shortchanged even in time of prosperity." [3]

The specific policy recommendations of that 1962 *Economic Report* are equally revealing, especially in the area of public welfare and assistance. President Kennedy supported a, "substantial revision in our public welfare and assistance programs, stressing rehabilitation services which help to restore families to independence." [4] This is confirmed in his message to Congress that accompanied proposed welfare reform, a statement that led the *New York Times* to comment that the President's stance, "stems from a recognition that no lasting solution to the [poverty] problem can be bought with a welfare check." [5]

His successor in office, Lyndon Johnson, echoed these views. By the time of his first *Economic Report,* the term, "War on Poverty," had already been coined and, consequently, the *Report* provided a very detailed plan for dealing with the problem of poverty in the United States. There are 11 specific strategies that are spelled out to reduce the volume of poverty. Only one, the 11th on the list, is connected in any way with simple money income transfers and it is confined to, "Assisting the Aged and Disabled." [6] If there were any doubt about the character of the emphasis of the Johnson proposals, it is resolved by the textual discussion that follows the detailing of antiproverty strategies. In a very clear and unambiguous fashion, it is stated that, "the major thrust of our campaign must be against causes [of poverty] rather than symptoms." [7]

Rhetoric Versus Reality in the War on Poverty

Clearly, the rhetoric of the War on Poverty at its inception espoused the "positive" policy implications of the structural poverty hypothesis. For example, at the signing of the initial antipoverty legislation, in August 1964, the President proclaimed that, "the days of the dole in this country are numbered." [8] The reality that ensued, however, was almost exactly the opposite. Within 2 years of the passage of that legislation, the volume of cash public assistance payments began to rise at a remarkable pace. Between 1965 and 1966, the increase in the *real* volume of such payments was 9.93 percent and this was not atypical of these years ahead.[9] For the 5 years 1965 through 1970 the average annual rate of increase in real cash public assistance was 9.53 percent. This compared to an average annual rate of increase over the 15-year period 1950–65 of 3.76 percent.

Perhaps, though, the sharp rise in the flow of cash public assistance payments after 1965 was simply an attempt to "make up" for years of denial of assistance to the poor in American society. While

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[3] Op. cit., pp. 9–10.
[4] Op. cit., p. 10.
[5] *New York Times,* Feb. 2, 1962, "Relief Is No Solution."
[6] *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1964), p. 73.
[7] Op. cit., pp. 77–78.
[8] For a report of this act, see *New York Times,* Aug. 21, 1964, "Johnson Signs Bill To Fight Poverty; Pledges New Era."
[9] Cash public assistance is defined as public assistance plus supplemental security income (SSI) less medicaid and social services. These are reported by the Social Security Administration in various issues of the *Social Security Bulletin.*

conceivable, the available evidence is not consistent with that possibility. Between 1950 and 1965, real cash public assistance per poor person in the United States rose much more rapidly than real per capita gross national product. Details are provided in Table 5–1. The data indicate that the proportion of society's income being devoted to cash public assistance payments was on the rise all through the early post-World War II period while the proportion of people with money incomes below the accepted poverty threshold was declining sharply. These numbers should not be surprising. One of the major concerns of the period immediately prior to launching the War on Poverty was welfare reform, reflecting an increasing dissatisfaction with a state of affairs which, to many, seemed to be leading toward more, not less, welfare dependency. Certainly, the previously cited statements of both Presidents Kennedy and Johnson seem to betray such a concern.

TABLE 5–1.—CASH PUBLIC ASSISTANCE, PER POOR PERSON, AND GROSS NATIONAL PRODUCT, PER CAPITA, UNITED STATES, 1950–65 (CONSTANT PRICES: 1950=100)

Year	Cash public assistance per poor person	Gross national product per capita
1950	100.0	100.0
1953	130.2	112.3
1954	123.2	108.8
1955	141.5	113.8
1956	148.7	114.1
1957	155.7	114.1
1958	153.7	111.5
1959	167.3	116.1
1960	164.8	115.6
1961	169.9	116.6
1962	184.7	121.5
1963	207.4	124.6
1964	219.2	129.4
1965	246.5	135.5

Sources: U.S. Department of Commerce and Social Security Administration.

What happened in the mid-1960's? Why, despite apparent intentions to the contrary, did the "dole" become a more significant part of American life? The answers to these questions are complex and beyond the scope of this inquiry. However, whatever they may be, the end result can be characterized as representing a shift in philosophy away from a concept of "equality of opportunity" for the poor toward a desire for "equality of outcome" for them.

In many ways, as the 1960's progressed, adopting the equality of outcome approach became the path of least resistance. The early evaluations of the various "opportunity enhancing" programs were not encouraging.[10] Besides, there were questions of economy involved. It is important to recognize that the equality of opportunity approach was not adopted in an attempt to reduce the cost of eliminating poverty. Most of the early arguments in its favor emphasized that it would be more costly in the short run than a simple increase in the size of welfare checks. The 1964 *Economic Report of*

[10] For a summary discussion of the thrust of these evaluations, see Charles Murray, *Losing Ground* (New York: Basic Books, 1984), ch. 2, pp. 33 ff.

the President discusses in detail how easy it would be to eliminate poverty through a simple transfer of income but then goes on to say that this is not the way to approach the problem, remarking that, "It will be far better, even if more difficult, to equip and permit the poor of the Nation to produce and earn the additional [income]."[11]

Implications of the Shift in Policy Emphasis

The movement in the direction of greater reliance on direct income transfers as a way of reducing poverty had profound implications. It has long been recognized that there are two possible effects of direct income transfers to the poor. On the one hand, there is the desired "income enhancing" dimension of a transfer. However, in addition, there is the possibility that the income transfers will discourage work effort on the part of the poor, leading to a "canceling out" of some of the income enhancing effects.[12] In fact, it is conceivable that in some situations, where the implicit tax on work effort created by foregone income transfers is very large, that the money income of many poor or near-poor people could be reduced by a heavy reliance on income transfers as a device to eliminate poverty.[13]

The way in which these two contrasting effects operate has been aptly illustrated in an analysis conducted by Sheldon Danziger and Robert Plotnick.[14] Using data for all persons living in families headed by persons aged 20 to 59 (and not in the armed services) they estimate that $12.6 billion (1983 dollars) of cash transfer payments in 1967 produced a reduction in poverty, net of disincentive effects, of 0.7 percentage points. By 1974, the volume of cash transfers had risen to $26.6 billion (1983 dollars) and the cumulative net reduction in poverty had increased to 1.0 percentage points. Thus, over the interval from zero to $12.6 billion in cash transfers, the marginal reduction in the poverty rate per billion dollars of transfers was 0.056 percentage points. However, between $12.6 and $26.6 billion in transfers the marginal reduction in the poverty rate was only 0.021 percentage points per billion of transfers.

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[11] *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1964). Similar views were being expressed in important media outlets during these years. See, e.g., *New York Times*, Feb. 2, 1962, "Relief Is No Solution."

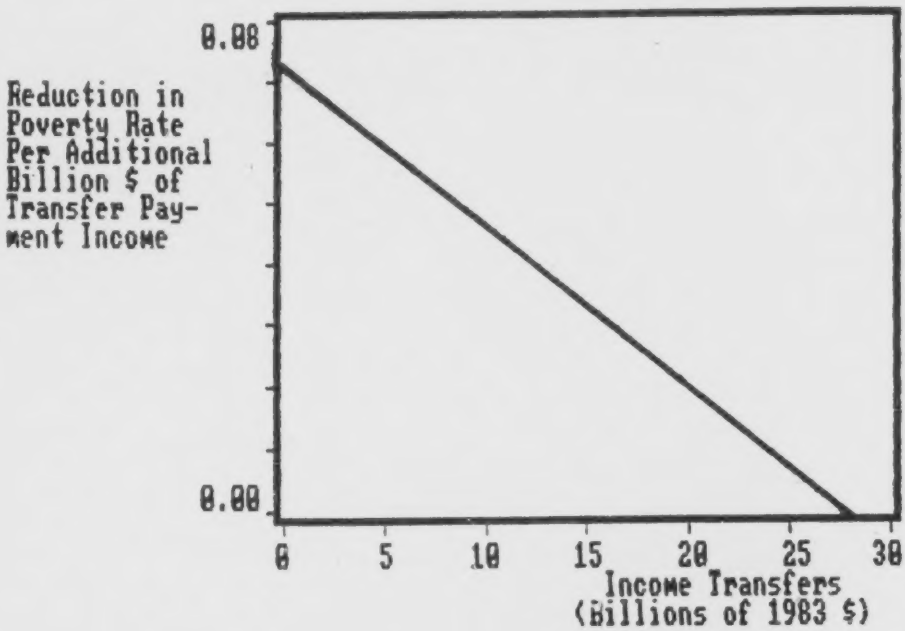
[12] Empirical evidence consistent with this possibility appeared rather early in the professional journals in economics. See, e.g., Carl T. Brehm and Thomas R. Saving, "The Demand for General Assistance Payments," *American Economic Review*, December 1964; Lowell E. Gallaway, "Negative Income Taxes and the Elimination of Poverty," *National Tax Journal*, September 1966; and Hirschel Kasper, "Welfare Payments and Work Incentive: Some Determinants of the Rates of General Assistance Payments," *Journal of Human Resources*, winter 1968.

[13] The possibility that the availability of transfer payment income might actually reduce the money income of some individuals through work disincentives is a very real one. If leisure (nonwork time) has positive value to people, the provision of transfer payments of the money variety to someone could very well induce them to reduce the volume of their work effort by enough to produce a lower level of money income. This is specially the case if the penalties (in the form of lost transfer payments) for working are substantial. It is easy to picture situations in which the implicit tax on work effort from this source is 100 percent, or more, when costs of getting to and from work, child care, and various taxes, such as State and local income tax and social security taxes, are taken into account. Add to this the fact that many transfers are of the noncash variety and the possibility of reduced money income is enhanced.

[14] The Danziger-Plotnick findings are reported in *Children in Poverty*, Committee Print, Committee on Ways and Means, U.S. House of Representatives (Washington, DC: U.S. Government Printing Office, 1985), pp. 157–58.

Decreasing marginal rates of poverty reduction raise the possibility that there is a threshold level of income transfers beyond which additional transfer payments actually increase the poverty rate rather than decrease it. A linear extrapolation of the Danziger-Plotnick findings indicates that the marginal rate of poverty reduction may actually have become *negative* at 1974 levels of cash transfers. See Figure 5-1.

Figure 5-1: Marginal Poverty Reduction Rates



The Danziger-Plotnick results are strikingly suggestive of a hypothesis that has been suggested by several commentators on the nature of poverty in the United States.[15] Their thesis is that the level of transfer, or welfare payment, income has reached such proportions that its associated work disincentive effects lead to higher observed rates of official poverty. In a more technical vein, we demonstrate in Appendix 5-1 that the relationship between the marginal rate of poverty reduction and the level of income transfers shown in Figure 5-1 is exactly consistent with a relationship between the overall poverty rate and the magnitude of income transfer that we call the Poverty-Welfare Curve.[16] See Figure 5-2.

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[15] See, e.g., Murray, op. cit.; George Gilder, *Wealth and Poverty* (New York: Basic Books, 1980); and Warren T. Brookes, *The Economy in Mind* (New York: Universe Books, 1982), ch. 7.

[16] We have made this argument elsewhere. See, in particular, our (with Therese Foster), "The 'New' Structural Poverty: A Quantitative Analysis," in *War on Poverty—Victory or Defeat?* Hearing, Subcommittee on Monetary and Fiscal Policy, Joint Economic Committee of the Congress of the United States, 99th Cong., 1st sess. (Washington, DC. U.S. Government Printing Office, 1986), pp. 8-47. See, also, our *Paying People To Be Poor* (Dallas, TX: National Center for Policy Analysis, 1986).

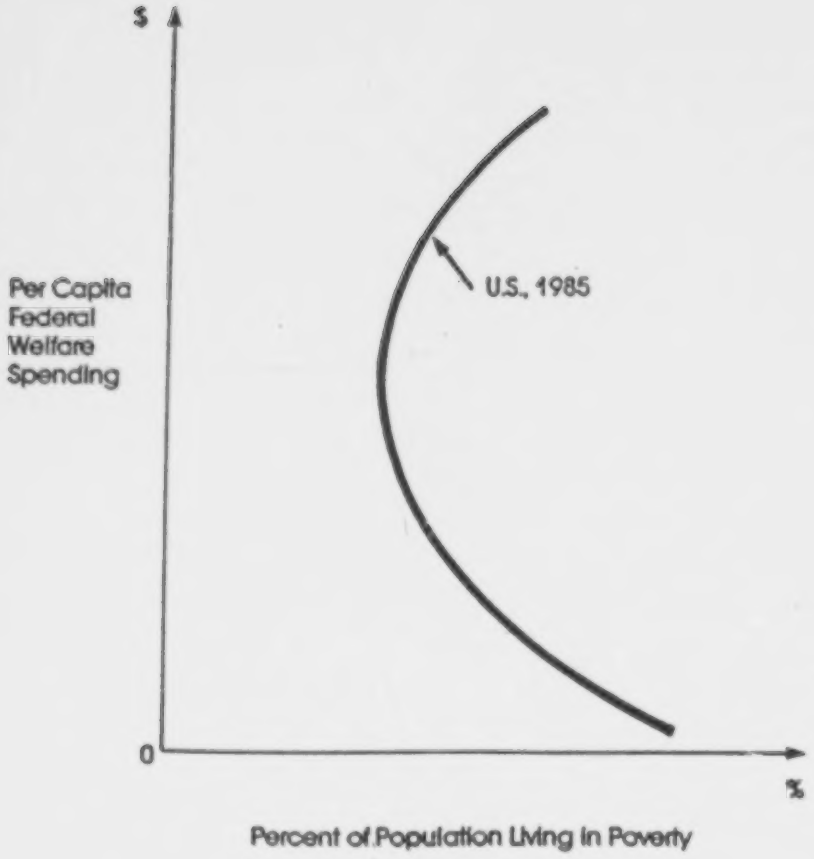

FIGURE 5–2

Some Estimates of the Poverty-Welfare Curve

The concept of the Poverty-Welfare Curve is an intriguing one, especially since it may offer an explanation for a puzzling aspect of the behavior of the poverty rate in recent years. Following the inception of the War on Poverty, the official poverty rate in the United States declined quite consistently through 1973, at which point it stood at 11.1 percent. After 1973, though, it has shown a tendency to increase over time, reaching a post-1965 high of 15.3 percent in 1983. This is a tale that is quite consistent with the marginal rates of poverty reduction that emerge from the Danziger-Plotnick analysis. Is it coincidence that Figure 5–1 shows the marginal rate of poverty reduction turning negative at roughly 1974 levels of cash transfers, just 1 year after the poverty rate reaches its historic low? To explore this possibility more thoroughly, we have formulated a statistical model based on Appendix 5–1 and have estimated a number of different versions of the Poverty-Welfare Curve.

These first estimates introduce a variety of measures that are designed to control for the impact of general economic conditions on the aggregate official poverty rate. This must be done in order to allow for the possibility that the post-1973 behavior of the poverty

rate reflects nothing more than variations in the overall level of economic activity. The particular variables used to control for broad economic conditions are various data series that describe changes in the rate of unemployment and levels of real income in the United States.

The argument presented in Appendix 5–1 indicates that the relationship between the level of income transfers and the poverty rate that is suggested by the concept of the Poverty-Welfare Curve can be expressed in a quadratic form of the following type:

(1) $P = a - bA + cA^2$

where P denotes the poverty rate and A is the volume of public income transfers (or aid) provided in the society.

Initially, the specific measure of income transfers we use is per capita Federal public aid, measured in 1980 dollars.[17] This statistic is both a more inclusive and a less inclusive one than that employed by Danziger and Plotnick. It is more inclusive in that it includes certain types of noncash transfers, such as food stamps and medicaid payments. This would seem desirable since it would be expected that there would be work disincentive effects associated with noncash transfers as well as with cash transfers. At the same time, it is less inclusive because it does not take account of non-Federal income transfers. However, at the start we think it desirable to focus on the impact of Federal programs by themselves. Later, we will take into consideration the non-Federal contributions to real income transfers.

Employing the aforementioned quadratic form for describing how income transfers and the poverty rate interact means that the general relationship between poverty and the factors we hypothesize to affect it is:

(2) $P = f(Y, U, A, A^2)$

where Y denotes a measure of the level of real income in the United States and U represents the unemployment rate. The specific measure of income that is used is real per capita national income and the time period chosen for analysis is 1953–83.

A number of possible ways of specifying an estimating equation that embodies the relationships of expression (2) are possible, depending on the way in which the poverty, income, and unemployment variables are handled. Of special importance is the treatment of the unemployment variable. The evidence indicates that, early in the period 1953–83, the impact of unemployment on poverty was weaker than in the later years.[18] A part of the problem is the upward drift in the unemployment rate associated with an increase in the "natural," or equilibrium, rate of unemployment in the American economy that is characteristic of the 1970's. Part of that rise in the natural rate of unemployment itself may trace to the increasing volume of public aid. Such aid has the potential of modifying people's labor market search behavior in a way that is likely

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[17] Federal public aid includes Aid for Families with Dependent Children (AFDC), Supplemental Security Income (SSI), Medicaid, food stamps, and certain work training programs.

[18] Evidence of this may be found in "The 'New' Structural Poverty . . .," op. cit., p. 12, where regression equations relating the poverty rate to income and unemployment levels are reported for the time intervals 1953–72 and 1973–83.

to produce increases in the observed unemployment rate. Thus, it may be hypothesized that the unemployment rate is a function of a certain set of factors *and* the level of public aid. Our preferred method of dealing with this problem is to invoke an unemployment model reported in a 1982 staff study for the Joint Economic Committee and to hypothesize the following:[19]

(3) $U = f(W, D, P_r, A)$

where W denotes the level of money wage rates in the economy, D represents the gross national product (GNP) deflator, and P_r is the average output per unit of labor. The advantage of this approach is that it permits the aid variable in a general estimating equation for poverty to capture the effects of the upward move in the natural rate of unemployment that may be attributed to increases in public aid.

Employing standard U.S. Government data sources for the variables described thus far (described in detail in Appendix 5–2 and shown, in part, in Table 5–2), a number of different versions of expression (2) have been estimated. Some contain the expanded unemployment notion embodied in (3) and others use the conventional measure of unemployment (in both linear and logarithmic form). In addition, several different forms of the income variable and linear and logarithmic values for the dependent variable, the poverty rate, are employed. All told, some 40 different versions of (2) have been estimated for purposes of this discussion. This was done in an effort to determine whether the statistical importance of the public aid variables is sensitive to the formulation of the statistical model.

TABLE 5–2.—POVERTY RATE, UNEMPLOYMENT RATE, REAL PER CAPITA FEDERAL PUBLIC AID, AND REAL PER CAPITA NATIONAL INCOME, UNITED STATES, 1953–83

[Dollar values in 1980 prices]

Year	Percentage		Real per capita	
	Poverty rate	Unemployment rate	Federal public aid	National income
1953	26.2	2.9	$26.31	$5,833
1954	27.9	5.5	26.83	5,691
1955	24.5	4.4	27.98	6,146
1956	22.9	4.1	28.00	6,298
1957	22.8	4.3	28.84	6,229
1958	23.1	6.8	29.98	5,985
1959	22.4	5.5	33.16	6,382
1960	22.2	5.5	32.64	6,420
1961	21.9	6.7	35.10	6,444
1962	21.0	5.5	40.11	6,763
1963	19.5	5.7	42.75	6,971
1964	19.0	5.2	44.49	7,279
1965	17.3	4.5	48.40	7,721
1966	14.7	3.8	56.57	8,124
1967	14.2	3.8	65.40	8,248
1968	12.8	3.6	76.54	8,551
1969	12.1	3.5	87.22	8,667

[19] Lowell Gallaway and Richard Vedder, "The 'Natural' Rate of Unemployment," Staff Study, Subcommittee on Monetary and Fiscal Policy of the Joint Economic Committee, Congress of the United States (Washington, DC: U.S. Government Printing Office, Dec. 17, 1982).

TABLE 5-2.—POVERTY RATE, UNEMPLOYMENT RATE, REAL PER CAPITA FEDERAL PUBLIC AID, AND REAL PER CAPITA NATIONAL INCOME, UNITED STATES, 1953–83--Continued

[Dollar values in 1980 prices]

Year	Percentage		Real per capita	
	Poverty rate	Unemployment rate	Federal public aid	National income
1970	12.6	4.9	100.19	8,425
1971	12.5	5.9	127.49	8,555
1972	11.9	5.6	153.18	9,070
1973	11.1	4.9	158.25	9,506
1974	11.2	5.6	159.62	9,088
1975	12.3	8.5	193.10	8,799
1976	11.8	7.7	216.12	9,190
1977	11.6	7.1	218.57	9,594
1978	11.4	6.1	227.19	9,986
1979	11.7	5.8	222.46	10,072
1980	13.0	7.1	216.78	9,316
1981	14.0	7.6	220.36	9,311
1982	15.0	9.7	192.66	8,993
1983	15.3	9.6	197.54	9,331
1984	14.4	7.5	NA	9,916

Source: See Appendix 5-2

An analysis of the results indicates that the public aid variables perform in a consistent fashion, regardless of the overall form of the estimating equation. In all 40 versions, the linear aid variable has a negative sign and the quadratic aid variable has a positive one. As to the statistical significance, 35 of the linear and 36 of the quadratic coefficients are significant at the 5 percent level.[20] From the standpoint of the stability of the coefficients, the minimum values in the various groupings range from 55.6 percent to 90.6 percent of their respective maximum values. (See Table 5-3.) Thus, in general, the public aid variables in the various forms of the estimating equation tend to confirm the hypothesis that transfer payments eventually become counterproductive when used as a policy device to reduce the incidence of poverty in the economy. In short, they support the existence of the Poverty-Welfare Curve.

TABLE 5-3.—ANALYSIS OF REGRESSION COEFFICIENTS FOR REAL PER CAPITA AID VARIABLES, 40 STATISTICAL MODELS EXPLAINING BEHAVIOR OF POVERTY RATE

Characteristics of Coefficients	Coefficient and nature of statistical model [1]							
	Pov-Expanded		LogPov-Expanded		Pov-NonExpanded		LogPov Non-Expanded	
	Aid	AidSq	Aid	AidSq	Aid	AidSq	Aid	AidSq
Maximum value	−.081	.00026	−.0056	.000018	−.1086	.00029	−.0058	.000016
Minimum value	−.055	.00014	−.0051	.000014	−.0610	.00017	−.0048	.000013
Mean	−.061	.00023	−.0053	.000016	−.0888	.00024	−.0053	.000015
Minimum as percent of Maximum [2]	67.8	55.1	90.6	77.5	56.2	58.2	82.7	80.1
Number of significant coefficients at 5 percent level (out of 10)	9	9	10	10	7	7	9	10

[20] A summary of the regression results for all 40 models is contained in App. 5-3.

TABLE 5–3.—ANALYSIS OF REGRESSION COEFFICIENTS FOR REAL PER CAPITA AID VARIABLES, 40 STATISTICAL MODELS EXPLAINING BEHAVIOR OF POVERTY RATE—Continued

Characteristics of Coefficients	Coefficient and nature of statistical model [1]							
	Pov-Expanded		LogPov-Expanded		Pov-NonExpanded		LogPov Non-Expanded	
	Aid	AidSq	Aid	AidSq	Aid	AidSq	Aid	AidSq
Number of significant coefficients at 10 percent level (out of 10)	9	9	10	10	8	9	10	10

[1] Pov and LogPov denote, respectively, that the dependent variable in the regression model is the poverty rate and the logarithm of the poverty rate. Expanded means that the model employs the value of money wage rates, the gross national product deflator, and the average productivity of labor as independent variables to take account of the impact of unemployment on the poverty rate. Nonexpanded means that either the unemployment rate or its logarithm are used directly as a measure of unemployment.

[2] Percentages are calculated using values of the coefficients that have not been rounded to the extent shown in table.

Source: Authors' calculations.

One full set of regression estimates is shown in Table 5–4. They have the linear form of poverty as the dependent variable and the expanded version of the unemployment relationship as independent variables. The overall performance of these regressions in explaining the behavior of the poverty rate over the period 1953–83 is excellent in a statistical sense, with all the coefficients but one being significant at the 5-percent level and 98 percent of the variation in the poverty rate being explained.

TABLE 5–4.—SELECTED POVERTY MODELS, UNITED STATES, 1953–83

Model	Regression parameters								
	Coefficients [1]								
	Constant	Money wage rate	GNP deflator	Average productivity of labor	Income [2]	Aid [3]	Aid squared	R^2	D–W
1	77.97	0.79	−0.83	−0.49	−0.14	−.0577	.0002604	.98	2.03
	(7.87)	(3.73)	(3.41)	(5.07)	(3.74)	(2.28)	(3.17)		
2	101.24	0.64	−0.67	−0.31	−23.49	−.0596	.0002299	.98	1.79
	(9.92)	(3.54)	(3.24)	(2.99)	(4.88)	(2.65)	(3.27)		
3	82.73	0.74	−0.77	−0.41	−2.67	−.0585	.0002479	.98	1.94
	(8.73)	(3.75)	(3.44)	(4.06)	(4.30)	(2.45)	(3.26)		
4	20.73	0.53	−0.54	−0.24	−186.77	−.0606	.0002087	.98	1.58
	(1.53)	(3.00)	(2.72)	(2.15)	(5.22)	(2.80)	(3.12)		
5	94.73	0.53	−0.55	−0.23	−9.66	−.0548	.0001881	.98	1.53
	(7.99)	(2.47)	(2.25)	(1.75)	(2.60)	(2.42)	(2.40)		
					0.41				
					(1.91)				

[1] The values in parentheses beneath the regression coefficients are t-statistics.

[2] Income is real per capita national income in 1980 prices. The income variables are, respectively, models 1–5, income squared, log income, income, reciprocal of income, and a quadratic form, income and income squared. The first income coefficient in model 5 is for income, the second for income squared.

[3] Real per capita Federal public aid.

Source: Authors' calculations.

Interpreting the Evidence

Quite clearly, the empirical evidence just reported argues very strongly for the existence of the Poverty-Welfare Curve, meaning that, beyond some threshold level, transfer income of the public aid type will lead to increases in the poverty rate. However, what is that threshold level of public aid? Table 5–5 provides an answer to

that question. The data contained in it give a range of estimates, running from a minimum of $110.17 per capita to a maximum of $194.94. Per capita refers to the entire population, not just to those classified as being in poverty. The overall average of the estimates is $165.35.

TABLE 5–5.—THRESHOLD VALUES FOR REAL PER CAPITA FEDERAL PUBLIC AID,[1] VARIOUS POVERTY MODELS, UNITED STATES, 1953–83

Threshold measure	Nature of statistical model			
	Dependent variable-log poverty		Dependent variable poverty	
	Expanded unemployment	Non-expanded unemployment	Expanded unemployment	Non-expanded unemployment
Mean value	$161.70	$177.18	$138.52	$183.98
Maximum value	182.16	190.47	193.78	194.94
Minimum value	142.00	164.72	110.17	167.05
Minimum as percent of maximum	78.0	86.5	56.8	85.7

[1] In 1980 prices.

Source: Authors' calculations.

The most useful estimates of the threshold level of per capita public aid are those using the expanded form of the unemployment relationship in the estimating equation. This is due to this form of the estimating equation shifting the impact of public aid on the unemployment rate to the coefficients of the public aid variables. In the other versions of the estimating equations, there is an indirect effect of public aid on poverty, operating through the unemployment variable, that is not captured by the coefficients of the public aid measures. Focusing just on the expanded unemployment type equations yields an average threshold aid estimate of $150.11 per capita.

How does the $150 per capita public aid figure compare with actual levels of aid? Referring to Table 5–2, we see that the $150 level was first exceeded in 1972, the year before the poverty rate reached its all time low. In every year since, through 1983, per capita levels of Federal public aid have exceeded that threshold level, by over 50 percent in 1978. Thus, for 12 consecutive years, following 1971, the magnitude of Federal public aid was in the range in which it actually resulted in poverty being greater then it would have been with a smaller amount of aid; 1983 levels of public aid were slightly more than 30 percent greater than the $150 figure. The gap between the actual level of aid and the average threshold level translates into $11 billion (in 1980 prices) of Federal public aid that has the primary effect of increasing the poverty rate.

Concluding Remarks

Our analysis to this point has developed substantial empirical evidence that seems to confirm the existence in the United States of what we have called the Poverty-Welfare Curve. Given the sharp turn in American public policy in the mid-1960's in the direction of increasing the importance of direct income transfers as a strategy for eliminating poverty, this is an extremely significant finding. What it suggests is that the basic thrust of the War on Poverty may well have taken a detour along a path that has led to the ap-

parent failure of current antipoverty programs. However, before reaching a conclusive judgment in that regard, we will await the findings of the next section of this study, in which we will explore in greater depth the underlying evidence regarding the nature of the Poverty-Welfare Curve.

Appendix 5-1.—The Logic of the Poverty-Welfare Curve

The declining rate of poverty reduction associated with increases in transfer payments shown by the Danziger-Plotnick investigation implies the existence of a nonlinear relationship between the poverty rate and the volume of transfer payment income, either cash or noncash, available to people with low levels of income. To demonstrate this, we express the relationship shown in Figure 5.1 as follows:

(1) $\delta P/\delta A = -(m - n A)$

where P represents the poverty rate and A the volume of public aid available in the system.

To derive the underlying relationship between poverty and public aid, we simply take the integral of (1), which is:

(2) $k - m A + n A^2$

Expression (2) indicates that a first approximation of the basic relationship between the level of poverty and the amount of public aid offered by the society is a quadratic one, i.e.,

(3) $P = a - b A + c A^2$

The quadratic formulation of the poverty-public aid nexus has profound implications for public policy. Specifically, it argues that there is some amount of public aid which will *minimize* the poverty rate. We call this the threshold level. Additional aid, beyond the threshold, will have the effect of *increasing* the poverty rate, rather than decreasing it. What this means is that the threshold level of public aid is an extremely important public policy parameter. By differentiating (3), setting the result equal to zero, and solving, we obtain the following:

(4) $T = b/2c$

where T denotes the threshold level of public aid.

Knowing this, we can calculate the threshold level of public aid if we can develop reliable statistical estimates of the parameters b and c. Of course, the threshold value occurs at the point at which the Poverty-Welfare Curve presented in the text commences to become positively sloped as aid is increased.

Appendix 5-2.—Data Sources

The data sources employed in analyzing the behavior of the poverty rate in the United States in this section of our study are as follows:

(1) Poverty Rate: U.S. Bureau of the Census, *Current Population Reports,* series P-60, various issues.

(2) Unemployment Rate: U.S. Bureau of Labor Statistics, *Employment and Earnings,* various issues.

(3) Money Wage Rate: Compensation per hour, business sector, as reported in Table B–40, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1985).

(4) Gross National Product Deflator: Implicit price deflator, business sector, as reported in Table B–40, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1985).

(5) Average Productivity of Labor: Output per hour of all persons, business sector, as reported in Table B–40, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1985).

(6) National Income: As reported in Table B–19, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1985).

(7) Consumer Price Index: As reported in Table B–52, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1985).

(8) Federal Public Aid: "Federal public aid," as reported by the Social Security Administration in the *Social Security Bulletin*, various issues.

(9) Population: U.S. Bureau of the Census, *Current Population Reports*, series P–25, various issues.

Appendix 5–3.—Per Capita Aid Coefficients and Threshold Values of Per Capita Aid,[1] 40 Statistical Models of Poverty, United States, 1953–83

Model form and nature of income variable [2]	Threshold value of public aid	Regression coefficients	
		Aid	Aid squared
LogPoverty-Expanded Unemployment-Autoregressive Adjustment:			
PCNYSQ	$146.23	[3] –.0053256	[3] .00001821
LRPCNY	169.71	[3] –.0056175	[3] .00001665
RPCNY	152.41	[3] –.0054970	[3] .00001757
PCYREC	182.16	[3] –.0053556	[3] .00001470
PCNYSQ and RPCNY	163.86	[3] –.0055101	[3] .00001531
LogPoverty-Log Unemployment-Autoregressive Adjustment:			
PCNYSQ	178.20	[3] –.0051557	[3] .00001441
LRPCNY	181.75	[4] –.0047764	[3] .00001314
RPCNY	164.72	[3] –.0051855	[3] .00001574
PCYREC	190.47	[3] –.0054093	[3] .00001420
PCNYSQ and RPCNY	181.38	[3] –.0057751	[3] .00001592
LogPoverty-Unemployment-Autoregressive Adjustment:			
PCNYSQ	174.72	[3] –.0057309	[3] .00001640
LRPCNY	174.19	[3] –.0051387	[3] .00001475
RPCNY	173.60	[3] –.0054337	[3] .00001565
PCYREC	179.55	[3] –.0053903	[3] .00001501
PCNYSQ and RPCNY	173.23	[3] –.0052453	[3] .00001514
LogPoverty-Expanded Unemployment [5]			
PCNYSQ	142.00	[3] –.0052029	[3] .00001832
LRPCNY	164.73	[3] –.0051855	[3] .00001574
RPCNY	150.99	[3] –.0051912	[3] .00001719
PCYREC	181.68	[3] –.0051562	[3] .00001419
PCNYSQ and RPCNY	163.22	[3] –.0050897	[3] .00001553
Poverty-Expanded Unemployment-Autoregressive Adjustment:			
PCNYSQ	110.17	[3] –.0577287	[3] .0002622
LRPCNY	137.14	[3] –.0663234	[3] .0002418

Appendix 5-3.—Per Capita Aid Coefficients and Threshold Values of Per Capita Aid,[1] 40 Statistical Models of Poverty, United States, 1953-83—Continued

Model form and nature of income variable[2]	Threshold value of public aid	Regression coefficients	
		Aid	Aid squared
RPCNY	122.24	[3] −.0595363	[3] .0002476
PCYREC	173.67	[3] −.0808615	[3] .0002328
PCNYSQ and RPCNY	193.78	−.0560019	.0001445
Poverty-Log Unemployment-Autoregressive Adjustment:			
PCNYSQ	194.94	[3] −.1029269	[3] .0002640
LRPCNY	190.00	[3] −.0957595	[3] .0002520
RPCNY	192.96	[3] −.0997982	[3] .0002586
PCYREC	186.82	[3] −.0864614	[3] .0002314
PCNYSQ and RPCNY	192.06	[4] −.0776700	[4] .0002022
Poverty-Unemployment-Autoregressive Adjustment:			
PCNYSQ	184.09	[3] −.1085783	[3] .0002949
LRPCNY	174.52	[3] −.0851431	[3] .0002418
RPCNY	179.48	[3] −.1002202	[3] .0002792
PCYREC	167.05	[3] −.0702270	[4] .0002102
PCNYSQ and RPCNY	177.83	[3] −.0610323	[3] .0001716
Poverty-Expanded Unemployment[5]			
PCNYSQ	110.85	[3] −.0577331	[3] .0002604
LRPCNY	129.52	[3] −.0595512	[3] .0002299
RPCNY	117.09	[3] −.0584523	[3] .0002479
PCYREC	145.09	[3] −.0605617	[3] .0002087
PCNYSQ and RPCNY	145.67	[3] −.0547999	[3] .0001881

[1] Real per capita Federal public aid in 1980 prices.

[2] Real per capita national income in 1980 prices. The codes for the income variables are as follows: PCNYSQ = income squared; LRPCNY = log income; RPCNY = income; PCYREC = the reciprocal of income; and PCNYSQ and RPCNY make up a quadratic form of the income variable.

[3] Significant at the 5 percent level or beyond. One-tailed test.

[4] Significant at the 10 percent level or beyond. One-tailed test.

[5] In the absence of an autoregressive adjustment, the Durbin-Watson statistics are important. The respective D-W's for the log poverty-expanded unemployment models are: 1.87, 1.55, 1.75, 1.36, and 1.57. For the poverty-expanded unemployment models, they are: 2.03, 1.79, 1.94, 1.58, and 1.53.

Source: Authors' calculations.

VI. MORE ON POVERTY AND WELFARE

There are a number of potential criticisms that might be offered with respect to our analysis of the relationship between poverty and the level of welfare benefits in the United States. The list is extensive:

(1) Perhaps the choice of a measure of welfare benefits is biasing the results. Our measure is confined to Federal public aid and does not include a substantial amount of benefits that are provided at the State and local government level.

(2) The specific manner in which the public aid measure is defined, i.e., as per capita public aid, may be a problem. Perhaps it should be public aid per poor person, or a nonlinear version of public aid, or even the volume of public aid relative to the level of income in the United States.

(3) Introducing the public aid measure in a quadratic fashion into our estimating equations may be biasing our findings and disguising a true negative relationship between public aid and the poverty rate.

(4) The definition of poverty may be questionable on several counts. To begin, changes in the poverty threshold level of income are governed by movements in the Consumer Price Index (CPI). In recent years, it has become widely recognized that there are biases in the CPI during a substantial portion of the period under analysis. Therefore, an alternative measure of poverty might be preferable, one that corrects for this difficulty.

(5) The poverty definition may be flawed due to its not taking into consideration the impact of noncash, i.e., inkind types of transfers. In reality, "true" poverty, not just poverty in a money income sense may behave quite differently from official poverty.

(6) The behavior of the overall poverty rate may be misleading due to differential movements in poverty among various demographic subgroups of the population. Conceivably, this could result in the observed overall Poverty-Welfare Curve being nothing more than a statistical artifact.

(7) The reliance on time series data may account for the results that have been observed. Perhaps the relationships that have been identified are merely statistical "accidents" associated with the passage of time.

The Choice of a Measure of Welfare Benefits

In order to deal with this wide range of possible objections to the analysis that has been reported, we have conducted a very extensive sensitivity analysis of our results. Much of it is reported in Table 6–1. To begin, the definition of public aid has been expanded

to include that provided at the State and local level. The basic data have been assembled for the time period 1955–83. Linear and quadratic versions of this aid measure, expressed in real terms per capita, were then substituted in our basic estimating equation, replacing Federal per capita income.

TABLE 6–1.—ALTERNATIVE POVERTY MODELS, UNITED STATES, 1953–83

Number	Time period	Poverty measure [a]	Aid measure [b]	t-Statistic		R^{2} [c]	D–W	Threshold aid level	When reached
				AID	AID^2				
1	53–83	All-O	FPA/PC	−3.17	3.74	.9834	1.92	$127.66	71–72
2	55–83	All-O	TPA/PC	−4.55	4.86	.9855	1.80	214.41	71–72
3	53–83	All-O	FPA/PP	−3.16	3.79	.9833	1.94	1,095.17	71–72
4	55–83	All-O	TPA/PP	−5.03	5.42	.9872	1.91	1,871.27	71–72
5	53–83	All-W	FPAW/PC	−3.19	3.91	.9854	1.86	127.98	70–71
6	55–83	All-W	TPAW/PC	−4.56	4.98	.9873	1.68	212.75	70–71
7	53–83	All-W	FPAW/PP	−3.00	3.80	.9851	1.85	1,115.63	71–72
8	55–83	All-W	TPAW/PP	−4.54	5.15	.9878	1.79	1,964.74	71–72
9	59–83	Child	FPA/PC	−2.08	2.85	.9486	1.52	116.39	70–71
10	59–83	Child	TPA/PC	[d] −1.53	2.03	.9197	1.06	181.01	70–71
11	59–83	Child	FPA/PP	−2.58	3.40	.9543	1.57	1,060.11	71–72
12	59–83	Child	TPA/PP	−3.40	4.27	.9612	1.65	1,687.36	71–72
13	53–83	Non-Aged	FPA/PC	−2.04	2.88	.9774	1.82	106.70	70–71
14	55–83	Non-Aged	TPA-PC	−3.37	4.00	.9793	1.75	192.74	70–71
15	53–83	Non-Aged	FPA/PP	−1.95	2.84	.9768	1.82	898.90	70–71
16	55–83	Non-Aged	TPA/PP	−3.56	4.29	.9803	1.82	1,676.22	71–72
17	53–83	Mid-Years	FPA/PC	[d] −1.53	2.45	.9776	1.94	94.30	69–70
18	55–83	Mid-Years	TPA/PC	−2.81	3.53	.9798	1.95	182.31	70–71
19	53–83	Mid-Years	FPA/PP	[d] −1.31	2.25	.9759	1.91	766.46	69–70
20	55–83	Mid-Years	TPA/PP	−2.81	3.57	.9797	1.97	1,585.36	70–71
21	64–83	Wht-O	FPA/PC	−2.43	2.81	.9369	2.04	162.82	74–75
22	64–83	Wht-O	TPA/PC	−2.91	3.31	.9188	2.19	248.29	72–73
23	64–83	Wht-O	FPA/PP	−2.89	3.23	.9174	2.08	1,491.73	74–75
24	64–83	Wht-O	TPA/PP	−3.36	3.68	.9267	2.23	2,311.45	74–75
25	64–83	Blk-O	FPA/PC	−2.12	2.79	.8151	1.38	144.55	71–72
26	64–83	Blk-O	TPA/PC	−2.73	3.47	.8416	1.47	221.79	71–72
27	64–83	Blk-O	FPA/PP	−2.53	3.15	.8296	1.35	1,337.07	72–73
28	64–83	Blk-O	TPA/PP	−3.16	3.84	.8553	1.45	2,081.30	72–73
29	59–83	Male-O	FPA/PC	−3.59	4.04	.9839	2.02	141.16	71–72
30	59–83	Male-O	TPA/PC	−4.41	4.83	.9864	2.18	217.26	71–72
31	59–83	Male-O	FPA/PP	−4.14	4.61	.9858	2.06	1,257.42	71–72
32	59–83	Male-O	TPA/PP	−4.93	5.37	.9880	2.20	1,942.82	71–72
33	59–83	Fem-O	FPA/PC	[d] 0.00	[d] 0.52	.9016	2.55	NA	NA
34	59–83	Fem-O	TPA/PC	[d] −0.34	[d] 0.90	.9045	2.57	NA	NA
35	59–83	Fem-O	FPA/PP	[d] −0.21	[d] 0.74	.9022	2.55	NA	NA
36	59–83	Fem-O	TPA/PP	[d] −0.51	[d] 1.08	.9052	2.58	NA	NA
37	59–83	Fem-O	FPA/PC	[e] 1.72	NA	.9054	2.52	NA	NA
38	59–83	Fem-O	TPA-PC	[e] 1.73	NA	.9054	2.48	NA	NA
39	59–83	Fem-O	FPA/PP	[e] 1.67	NA	.9045	2.51	NA	NA
40	59–83	Fem-O	TPA/PP	[e] 1.65	NA	.9043	2.48	NA	NA

[a] Codes for poverty measures are: All-O = Official, Total; All-W = Weicher Adjusted, Total; Child = Official, Related Children under Age 18; Non-Aged = Official, Age less than 65; Mid-Years = Official, Total less Age 65 and over and Related Children under Age 18; Wht-O = Official, White; Blk-O = Official, Black; Male-O = Official, Male Head of Household; and Fem-O = Official, Female Head of Household.

[b] Codes for Aid Measures are: FPA = Federal Public Aid; TPA = Total Public Aid; PC = Per Capita; PP = Per Poor Person; FPAW = Federal Public Aid adjusted by weicher prices; TPAW = Total Public Aid adjusted by Weicher prices. All aid measures in real terms.

[c] Adjusted for degrees of freedom.

[d] Not significant at 5 percent level, one-tailed test of significance.

[e] Not significant at 5 percent level, two-tailed test of significance.

NA: Not applicable.

Source: Authors' calculations.

The first two rows of table 6–1 provide a comparison of the statistical results obtained in our initial analysis and those produced using the more extended public aid measure. As can be seen read-

ily, if anything, the new results are more robust than the previous ones, especially with respect to the behavior of the public aid measure. Both the linear and the quadratic terms have the expected signs and their t-values are substantially greater than those obtained using just the Federal aid data. Of course, the aid measure is now larger than before and, therefore, the threshold value of aid is greater. However, the point at which the income enhancing effects of public aid are overwhelmed by the disincentive effects occurs at the same time, around 1971–72. Clearly, using the more extended measure of public aid does not alter our basic conclusions in the slightest.

Alternative Definitions of the Public Aid Measure

Next, we consider the possibility that our public aid variables have been misdefined. It could be argued that it is more appropriate to focus on the volume of public aid per poor person when attempting to explain variations in the poverty rate. Therefore, we have modified both the Federal and total public aid measures to express them as aid per person considered to have a poverty level of money income.

Rows three and four of Table 6–1 show the results of reestimating our basic poverty equation using this form of the public aid measure. Again, the statistical results are quite comparable to those already reported. Whether using Federal or total public aid, the signs of the public aid variables are consistent with the existence of a Poverty-Welfare Curve and all the regression coefficients are highly significant in a statistical sense. More important, once again the threshold level of public aid is reached during the time period 1971–72. The conclusion is obvious. Our basic argument is unaffected by redefining the public aid variables so that they are expressed as aid per poor person.

In addition, we have also explored the impact on our statistical results of employing both a logarithmic version of the public aid measure and public aid expressed as a fraction of per capita national income. The sensitivity analysis involving the use of these measures is extensive. Some 60 different variants of the basic model have been estimated for each of the alternative aid measures. The results are summarized in Table 6–2. In the case of the logarithmic form of public aid, all coefficients have the signs to which we have become accustomed, all but one of both the linear and the quadratic coefficients are significant at the 5 percent level, and all coefficients are significant at the 10 percent level. With aid expressed as a fraction of income, all coefficients have the expected sign and are significant at the 5 percent level. This strongly suggests that the underlying statistical model is relatively insensitive to alterations in the manner in which it is formulated, at least where the public aid variables are concerned.

TABLE 6-2.—RESULTS OF ESTIMATING POVERTY MODELS WITH ALTERNATIVE FORMS OF PUBLIC AID VARIABLE, UNITED STATES, 1953-83

Form of Aid Variable	Number of coefficients		Number with expected sign		Number significant at 5 percent level		Number significant at 10 percent level	
	Aid	Aidsq	Aid	Aidsq	Aid	Aidsq	Aid	Aidsq
Logarithmic	60	60	60	60	59	59	60	60
Relative to income	60	60	60	60	60	60	60	60

Source: Authors' calculations

The Appropriateness of the Quadratic Form

Another possible difficulty with our analysis is that the choice of the quadratic form for incorporating the impact of public aid in our estimating equations may constrain the results in a fashion that introduces a systematic bias. It might even be that, in the absence of the quadratic functional form, the relationship between poverty and public aid would be both significant and negative. To explore that possibility, we have estimated some of the basic equations using a single measure of per capita aid, either in a linear or a logarithmic form. The results are interesting. When aid is introduced in a simple linear fashion, along with the usual variables to control for variations in the general level of economic activity, it is highly significant in a statistical sense with a *positive* sign. By itself, that would suggest that *throughout the time period under consideration aid has had the effect of increasing poverty rather than decreasing it.* We find this a highly improbable conclusion, especially when the results of introducing aid in a logarithmic fashion are considered. When that is done, the aid measure is insignificant, although it has a negative sign. This is highly consistent with the existence of a nonlinearity, such as that described by a quadratic functional form.

Possible Bias in the Consumer Price Index

Recently, John Weicher presented an analysis which argues that the pattern of change in the poverty rate is somewhat different than that suggested by the official statistics. The crux of his argument is the widely recognized systematic bias that crept into the calculation of the Consumer Price Index (CPI) during the 1970's. Weicher offers alternative data series for both the Consumer Price Index and the poverty rate which make a correction for the bias in the CPI.[1] These are shown in Table 6-3. To illustrate the impact of the Weicher argument on the definition of poverty, Figure 6-1 has been constructed. It compares the Weicher poverty rates with the official ones for the period 1967-83; 1968 is the first year in which the Weicher rates differ from the official.

[1] John C. Weicher, "Mismeasuring Poverty and Progress," American Enterprise for Public Policy Research, December 1985.

TABLE 6-3.—WEICHER-ADJUSTED CONSUMER PRICE INDEX AND POVERTY RATES, UNITED STATES, 1967-84

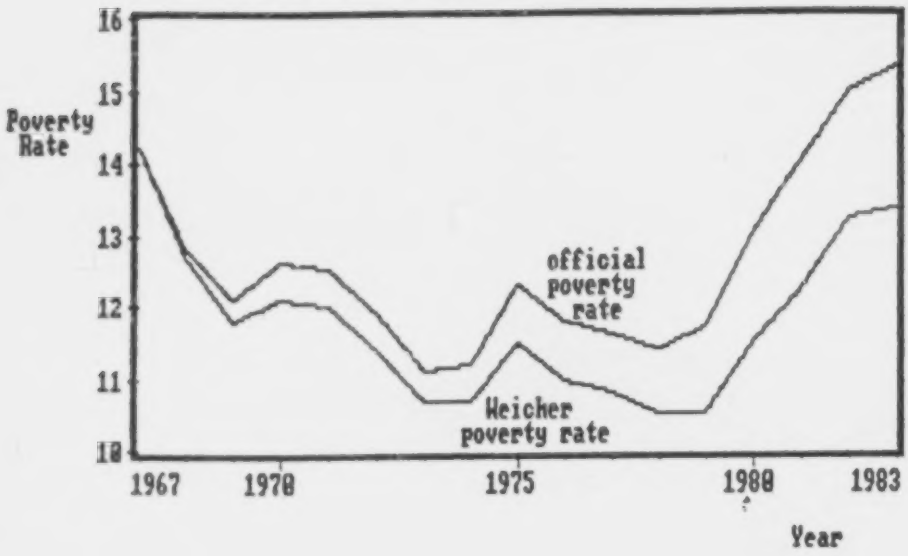
Year	Official CPI	Weicher adjusted CPI	Official poverty rate (percent)	Weicher Adjusted poverty rate (percent)
1967	100.0	100.0	14.2	14.2
1968	104.2	103.7	12.8	12.7
1969	109.8	108.3	12.1	11.8
1970	116.3	113.6	12.6	12.1
1971	121.3	118.5	12.5	12.0
1972	125.3	122.1	11.9	11.4
1973	133.1	129.7	11.1	10.7
1974	147.7	142.8	11.2	10.7
1975	161.2	154.6	12.3	11.5
1976	170.5	163.5	11.8	11.0
1977	181.5	173.9	11.6	10.8
1978	195.4	185.7	11.4	10.5
1979	217.4	203.6	11.7	10.5
1980	246.8	226.4	13.0	11.5
1981	272.4	247.9	14.0	12.2
1982	289.1	263.0	15.0	13.2
1983	298.4	271.5	15.3	13.3
1984	311.0	283.0	14.4	12.6

Source: John C. Weicher, "Mismeasuring Poverty and Progress," American Enterprise Institute for Public Policy Research, December 1985.

The significance of the Weicher analysis for us is that his poverty series shows a much less pronounced pattern of poverty reaching a minimum. His minimum occurs some 5 years after the official poverty rate reached its lowest point. This raises the possibility that using the Weicher poverty series as a dependent variable would produce different conclusions than we have reached.

To resolve this potential difficulty, we have used the Weicher price index series to adjust our measures of real public aid and national income and reestimated our basic statistical model. Some of the results are reported in Table 6-1. Rows five through eight of that table describe the basic statistical parameters for equations using either Federal or total public aid, expressed in both the per capita and per poor person form. They show no significant departures from the previous results. All of the Public aid coefficients are highly signifcant and the threshold levels of public aid are reached some time between 1970 and 1972.

Figure 6-1: Trends in Poverty: Official Vs. Weicher Rates



These results are confirmed in a more extended sensitivity analysis using data adjusted to take into account the Weicher argument. In 180 different versions of the basic model, the use of the Weicher data produces no instance of the signs of the public aid coefficients deviating from what has become the "normal" pattern. In addition, 179 of the linear and 177 of the quadratic coefficients are significant at the 5 percent level, and only 1 coefficient, a quadratic one, is not significant at the 10 percent level. Again, nothing emerges from the substitution of Weicher-adjusted data for the official information that is inconsistent with the basic conclusions that have already been described.

The Importance of In-Kind Transfer Payments

The official poverty rate statistics also may be criticized for their exclusive reliance on measures of money income when determining the incidence of poverty. In a world in which noncash governmental transfers have become increasingly more important through time, evaluating the economic status of those with low incomes solely on the basis of their levels of money income could be decidedly misleading. In recognition of this, the Census Bureau has developed various data series that attempt to take account of the importance of noncash transfers to the poor. These alternative poverty measures are available beginning in 1979.

Three different versions of an in-kind transfer adjusted poverty rate are offered. One evaluates the in-kind transfers at the prices these transfers would sell for in the private market. A second estimates the cash-equivalent value to the recipients of the services provided by these transfers, i.e., it measures the value of the services by estimating the cash value that those who receive in-kind

transfers attach to them. Last, there is a series which limits the value of various in-kind transfers to the share of income spent on these items by those at or near the poverty line in 1960–61. The various series, along with that for the regular poverty rate, are shown in Table 6–4.

TABLE 6–4.—ACTUAL POVERTY RATE AND POVERTY RATES ADJUSTED FOR PRESENCE OF NONCASH GOVERNMENT BENEFITS, UNITED STATES, 1979–84

[In percent]

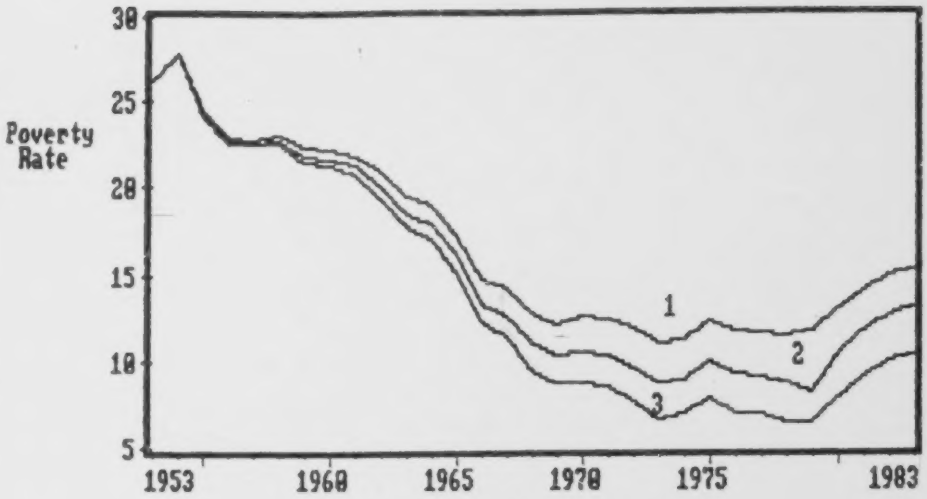
Year	Actual poverty rate	Poverty rate adjusted for noncash benefits		
		Method of adjustment		
		Market value	Cash equivalent	Budget share
1979	12.1	6.4	8.2	8.9
1980	13.0	7.9	10.4	10.4
1981	14.0	9.0	11.7	11.5
1982	15.0	10.0	12.7	12.5
1983	15.3	10.3	13.1	13.0
1984	14.4	9.7	12.2	12.1

Source: U.S. Bureau of the Census, Current Population Reports, series P–60.

A visual examination of these alternatives to the conventional poverty definition suggests that they move in concert with the standard poverty rate. In particular, it is worth noting that the year to year changes in the rates are very similar. Ideally, though, it would be useful to have a full data series that would enable us to replicate our statistical results using an in-kind transfer adjusted poverty rate.

With a set of reasonable assumptions it is possible to construct the necessary data series. In 1953, all of the Federal public aid expenditures were in a cash form, i.e., there were no in-kind transfers to consider. Thus, the official and in-kind adjusted poverty rates may be viewed as being identical. After 1953, there is a gradual escalation of the volume of in-kind transfers. They become more and more important in the total scheme of public aid outlays. Since we know the differential between the regular and the in-kind adjusted poverty rates after 1978, we can estimate the adjusted poverty rates for the years between 1953 and 1979 by assigning each year a share of that differential based on the relative importance of in-kind transfers in public aid expenditures in that year. The impact of doing this is shown in Figure 6–2. In that diagram the official poverty rate data series (labeled 1) is shown as well as the cash equivalent (labeled 2) and market value (labeled 3) series that have been estimated with our procedure. The estimated series for the poverty budget share variant of the in-kind adjusted poverty rate is so similar to the market value series that it is not included in the diagram.

Figure 6-2: Trends in Poverty, 1953-1983



1 = Official 2 = Cash Equivalent 3 = Market Value

The three in-kind adjusted poverty rate data series we have constructed were then substituted into our basic statistical model in place of the official poverty rate as a dependent variable. A sample of the results of estimating these versions of our poverty model is reported in Table 6-5. All three variants of the in-kind adjusted poverty rate are associated with the standard public aid measure in a fashion that is indistinguishable from the relationship observed when the official poverty rate is the dependent variable. The regression coefficients for the public aid measures are highly significant and the threshold value of public aid that is indicated by the equation is attained somewhere between 1970 and 1972, depending on the particular definition of poverty being used. Apparently, redefining poverty to incorporate the impact of in-kind transfers on the well-being of the low-income population does not alter the configuration of the Poverty-Welfare Curve.

TABLE 6-5.—RESULTS OF STATISTICAL ESTIMATION OF BASIC POVERTY MODEL WITH POVERTY RATES ADJUSTED FOR PRESENCE OF NONCASH GOVERNMENT BENEFITS, UNITED STATES, 1953-83

Poverty definition	Regression statistics				Threshold level of public aid	When reached
	t-Statistics		R^{2*}	D-W		
	Aid	Aidsq				
Market value	−3.69	5.25	.9827	1.84	$121.73	70-71
Cash equivalent	−3.69	4.83	.9755	1.86	134.94	71-72
Budget share	−3.56	5.04	.9772	1.92	120.94	70-71

* Adjusted for degrees of freedom

Source: Authors' calculations

Demographic Variations in the Poverty-Welfare Curve

One final potential problem with our time series analysis remains. Could it be that our basic findings reflect some kind of aggregation bias in the data? After all, there are a number of different demographic subgroups included in the overall poverty experience of the Nation. In order to assess the potential impact of this on our findings, we have assembled from the official data poverty series for: (1) Related children under the age of 18 living in families, (2) those less than age 65, (3) those less than age 65 and not related children living in families, (4) whites and blacks, and (5) households, by sex of head. In some cases, gaps in the data series have been filled using interpolative techniques based on regression equations estimated from the existing data.

We look first at the data for related children. Four different versions of our statistical model are reported in Table 6–1 (rows 9 through 12). Results using either total or Federal per capita aid with aid expressed either as per capita or per poor person are shown. All of the aid coefficients have the expected sign and all but one is significant at the 5 percent level or beyond. The sole exception is significant at the 10 percent level. Calculation of the threshold levels of public aid reveals that they are reached somewhere in the time period 1970–72, similar to all previous results.

Next, we consider the behavior of the poverty rate when the aged, defined as those age 65 and over, are excluded from the data. Again, four different versions of the model are reported in Table 6–1 (rows 13 through 16). All of the regression coefficients for the aid variables have the usual signs and are significant at the 5 percent level or beyond. And, once more, the threshold levels of aid expenditures are reached between 1970 and 1972.

Then, there are those in the middle years, neither a related child or aged 65 and over, who are analyzed separately. The findings are shown in rows 17–20 of Table 6–1. There is a slight variation from the previous patterns in these results. All coefficients on the aid variables have the anticipated signs. However, two of them are not significant at the 5 percent level and one is not significant at the 10 percent level, although the t-value in this case is 1.31. Interestingly, the instances in which there is nonsigificance at the 5 percent level occur with the linear aid measure and not with the quadratic term. This suggests that the income enhancing effects of public aid are relatively weaker among the group under analysis and, by implication, that the disincentive effects are relatively stronger. That is not a surprising conclusion. It is this segment of the population, those who are neither aged or children, who have the strongest attachments to the labor market. Work disincentive effects should be stronger among this portion of the populace. Interestingly, the threshold values of public aid for this group are consistently lower than those for the overall population or for just the nonaged population. Consequently, the threshold level of aid is reached about a year sooner, 1969–71.

The preceding remarks tend to clarify the nature of whatever aggregation bias there might be in our results. Apparently, including the aged in the poverty rate data series tends to overstate the income enhancing effects of public aid. This group is the primary

recipient of the massive Social Security income payments that occur in the United States, transfers that are not a part of the public aid variables that we have employed. Consequently, the income enhancement for the aged generated by these income flows is treated statistically as if it were the result of public aid transfers. How important this could be in our analysis is suggested by the long-term behavior of the poverty rate among the aged in the United States. In 1959, the overall poverty rate was 22.4 percent and the rate for those aged 65 and older was 35.2 percent. By 1984, the aggregate rate had fallen to 14.4 percent but the rate for the aged had declined to 12.4 percent, *less than the rate for the entire population.*

It is also worth noting that the poverty rate for the aged has not shown the consistent upward movement that characterized other poverty rates in the late 1970's and early 1980's. In general, it has continued to march steadily downwards through the years. And, of course, this has been accompanied by a remarkable decline in the volume of labor force participation among the aged. At the beginning of the post-World War II era in the United States, the labor force participation rate among aged males was nearly 50 percent. Today, it is approaching 15 percent and the projections are that by the end of the century it will be in the vicinity of 13 percent. Apparently, a sufficiently large enough volume of income transfers can reduce the poverty rate, especially if the population in question has a limited degree of attachment to the labor force. However, when this is not the case, i.e., when there is a substantial degree of labor force participation in a population subgroup, the opportunity for work disincentive effects to operate is much greater and the relationship we have called a Poverty-Welfare Curve emerges.

Next, we consider the findings when the focus is on poverty by race. These are shown in rows 21–28 of Table 6–1. In all eight cases, both the linear and quadratic aid terms are significant at the 5 percent level or beyond, indicating the presence of a threshold level of public aid. The only difference between the two sets of coefficients is an indication that the threshold level of public aid is about 10 to 15 percent higher for whites than for blacks. Consequently, we conclude that the phenomenon of the Poverty-Welfare Curve is not a race specific one.

Finally, there are the results obtained by disaggregating the data on the basis of the sex of the head of household. Where the head of household is male, the regression findings exactly parallel the overall results. (See rows 29–32 of Table 6–1.) Somewhere in the very early 1970's the threshold level of public aid was reached. However, when the poverty-public aid relationship is analyzed for female heads of household, in no case is either the linear or the quadratic aid variable significant at the 5 percent level. Details are provided in rows 33–36 of Table 6–1. This opens up the possibility that the use of the quadratic form in the estimating equation is disguising the income enhancing effects of public aid on poverty among household with a female head. To determine whether this is the case, the basic poverty model was estimated with just the linear aid term, that is excluding the quadratic version of aid. The results are shown in rows 37–40 of Table 6–1. What they indicate is a weak statistical relationship between public aid and poverty of a *positive*

nature. This may indicate that, throughout the period, the impact of aid has been to rather systematically increase the poverty rate among households headed by a female. Given the weaknesses of the statistical relationship, though, it may be safer to conclude that greater levels of public aid have no impact on poverty in this group of households. Since there are obviously direct income enhancing effects associated with such aid, this must mean that the disincentive effects are quite strong at relatively low levels of public aid.

Collectively, disaggregating the basic poverty data set into demographic subgroups produces a set of statistical results that is highly consistent with our basic premise that increasing public aid has become a counterproductive approach to reducing the incidence of poverty in the United States. But, there still remains one other form of evidence to consider.

Alternatives to Time Series Data

The use of time series data always raises the possibility that observed relationships are merely the chance result of different time trends in the data series being analyzed. To be sure, there are other data of a nontime series fashion that support our findings, such as the Danziger-Plotnick material. However, if available, additional support for our basic argument would seem desirable. In an effort to provide such confirmatory evidence, we have examined the behavior of poverty rates in the individual States of the United States. First, for 1979 (1980 Census data), we have estimated a regional version of the Poverty-Welfare Curve for the 48 contiguous United States, using the level of aid for families with dependent children (AFDC) payments as a measure of the attractiveness of public aid. We control for differences in general economic conditions by introducing as a variable the level of per capita income in a State.

The statistical results are detailed in Table 6–6. Over 80 percent of the variation in State poverty rates as of the 1980 Census is explained by differences in income levels and a linear and quadratic version of the public aid measure. All of the variables are highly significant, with the minimum t-Statistic being 5.16. When the threshold level of AFDC payments is calculated and compared with the actual payments in the various States, it appears that 14 of the States, containing 38.2 percent of the population of the United States in 1980, were offering AFDC payments in excess of the threshold.

TABLE 6–6.—STATISTICAL ANALYSIS OF REGIONAL POVERTY-WELFARE CURVE, UNITED STATES, 1979 [1]

Independent Variable	Regression Coefficient	t-Statistic
State income level	−0.0020	−6.45
Level of State AFDC payments	−.0960	−6.24
Level of State AFDC payments squared	.00016	5.16

[1] The adjusted R^2 for this regression equation is 0.8215.

Source: Authors' calculations.

The poverty experience of those 14 States across the decade of the 1970's is described in Table 6-7. The striking thing about it is how dramatically it differs from that of the other 34 contiguous States. The simple arithmetic average of the percent change in the poverty rate for the 14 high benefit States shows an increase of 0.8 percent. For the other 34 States, the average is a *decline* of 16.5 percent. This suggests a systematic relationship between the level of welfare benefits, as measured by AFDC payments, and success, or failure, in reducing the poverty rate in the various States.

TABLE 6-7.—PERCENTAGE CHANGE IN POVERTY RATE, 1969-79, 14 HIGHEST AFDC BENEFIT STATES, UNITED STATES

	Percent change in poverty rate, 1969-79
State:	
Connecticut	+11.1
Massachusetts	+11.6
New Jersey	+17.3
New York	+20.7
Rhode Island	−6.4
Vermont	0.0
Iowa	−12.9
Michigan	+10.6
Minnesota	−11.2
Wisconsin	−11.2
California	+2.7
Oregon	−7.0
Utah	−9.6
Washington	−3.9

Source: U.S. Bureau of the Census.

We have explored this possibility more thoroughly by attempting to explain variation in the percentage change in the official poverty rates for the States between 1969 and 1979, which are considerable, in terms of differences in levels of (AFDC) payments and rates of real economic growth among the States. Economic growth is measured by the percentage change in real per capita income over the interval 1969-79. The statistical results are as follows:

$$(1) \quad \% \Delta P = 8.36 - \underset{(9.82)}{1.38} \% \Delta Y + \underset{(3.37)}{0.06} A, \bar{R}^2 = 0.84$$

where $\% \Delta P$ denotes the percentage change in a State's poverty rate between the two censuses, $\% \Delta Y$ is the percentage change in real per capita income over the same interval, and A is the mid-decade (1975) level of AFDC payments in the State. The values in parentheses beneath the regression coefficients are t-statistics.

Again, the statistical results provide striking support for the basic arguments that we have been advancing. Apparently, the relationship between the volume of poverty and the level of public aid payments that underlies the Poverty-Welfare Curve is not a statistical quirk associated with the use of time series data.

Conclusions

In this portion of our study, a number of additional considerations with respect to the existence of the Poverty-Welfare Curve have been explored. The broad conclusion of this extension of the earlier analysis is that the Poverty-Welfare Curve relationship is a remarkably stable one, emerging under a great variety of conditions with varying definitions of both the poverty rate itself and the measures of public aid that we have employed. Such underlying statistical stability lends very substantial credence to the argument that the basic structure of antipoverty programs in the United States since the 1960's has had the effect of creating a new kind of "structural" poverty, poverty arising out of people's labor market choices and behavior rather than out of their not having access to the labor market.

VII. POVERTY AMONG CHILDREN

The evidence with respect to the relationship between the volume of public aid available to the poor and the poverty rate seems quite clear. Beyond some point, additional public aid has the effect of producing *more*, not less, poverty, creating a "new" phenomenon, poverty by choice.

Voluntary poverty of this type has quite different implications than poverty of an involuntary nature, especially from the standpoint of the social well-being of those classified as being in poverty. Specifically, in the case of poverty by choice it would seem that those who voluntarily select poverty status in preference to a non-poverty situation must feel that they are "better off" in terms of overall satisfaction as the result of being in official poverty. If this is true, the mere fact that they are observed as being in poverty does not mean that they should somehow automatically be regarded as candidates for further public aid.

Of course, this argument depends on the proposition that all of those who constitute this "new" poverty group are there on a voluntary basis. Unfortunately, this is not the case. There is one very significant component of what we have called the "new" structural poverty that has not voluntarily opted for the poverty condition, namely, related children within family units, who, more often then not, are the very rationale for the existence of the public aid that induces their parents to elect the poverty condition.

How important is this possibility? Apparently, quite substantial and growing. Table 7-1 compares the behavior, beginning with 1959, of the total poverty rate and the rate for related children under the age of 18. The poverty rate for children consistently exceeds the overall rate but there is an interesting pattern in the differential between the two rates. In 1959, the child poverty rate is 4.5 percentage points greater than the aggregate rate. In the ensuing 10 years, that differential contracts to 1.7 percentage points. After 1969, though, this trend is reversed with a vengeance. For the next 15 years, the gap between the child and the overall poverty rates grows, reaching 6.6 percentage points in 1984.

TABLE 7-1.—TOTAL AND CHILD POVERTY RATES, UNITED STATES, 1959-84

[In percent]

Year	Total poverty rate	Child poverty rate	Child minus total
1959	22.4	26.9	4.5
1960	22.2	26.5	4.3
1961	21.9	25.2	3.3
1962	21.0	24.7	3.7
1963	19.5	22.8	3.3
1964	19.0	22.7	3.7
1965	17.3	20.7	3.4
1966	14.7	17.4	2.7

TABLE 7-1.—TOTAL AND CHILD POVERTY RATES, UNITED STATES, 1959-84—Continued

[In percent]

Year	Total poverty rate	Child poverty rate	Child minus total
1967	14.2	16.3	2.1
1968	12.8	15.3	2.5
1969	12.1	13.8	1.7
1970	12.6	14.9	2.3
1971	12.5	15.1	2.6
1972	11.9	14.9	3.0
1973	11.1	14.2	3.1
1974	11.2	15.1	3.9
1975	12.3	16.8	4.5
1976	11.8	15.8	4.0
1977	11.6	16.0	4.4
1978	11.4	15.7	4.3
1979	11.7	16.0	4.3
1980	13.0	17.9	4.9
1981	14.0	19.5	5.5
1982	15.0	21.3	6.3
1983	15.3	21.7	6.4
1984	14.4	21.0	6.6

Source: U.S. Bureau of the Census, Current Population Reports, P-60 series.

A possible explanation for this differential poverty experience of children is suggested by the analysis reported earlier. The poverty-welfare relationships for children indicate that the threshold level of public aid is lower than it is for the entire population. This may well mean that, as a group, children are more sensitive to the factors that influence the linkage between poverty and the availability of public aid. To explore that possibility, we have estimated a series of statistical models that have the difference between the child and overall poverty rates as the dependent variable and various combinations of income, unemployment, and public aid as independent variables. The results are reported in Table 7-2 and indicate the following:

(1) Poverty among children is not more sensitive to variations in real per capita income than overall poverty.

(2) Poverty among children is more responsive to differences in both unemployment and public aid than total poverty.

(3) The additional sensitivity to public aid is shown in the same fashion that public aid affects poverty rates in general, i.e., up to some threshold level of aid, poverty among children is reduced more rapidly than overall poverty by additional aid but, beyond that point, more aid leads to a more rapid increase in child poverty.

TABLE 7-2.—ANALYSIS OF DIFFERENCE BETWEEN CHILD AND TOTAL POVERTY RATES, UNITED STATES, 1959-83

Model	t-Statistic for independent variable				R^{2b}	D-W	Threshold level of public aid	When reached
	Income[a]	Unemployment	Aid	Aidsq				
1	0.96	[c] 4.33	[c] −2.24	[c] 2.81	.7880	1.50	$152.77	71-72
2	0.77	[c] 4.33	[c] −2.04	[c] 2.60	.7846	1.46	147.07	71-72
3	1.13	[c] 4.38	[c] −2.46	[c] 3.02	.7915	1.54	161.28	74-75
4	−0.59	[c] 4.40	[c] −1.90	[c] 2.43	.7820	1.44	138.55	71-72

TABLE 7-2.—ANALYSIS OF DIFFERENCE BETWEEN CHILD AND TOTAL POVERTY RATES, UNITED STATES, 1959-83—Continued

Model	t-Statistic for independent variable				R^{2} [b]	D-W	Threshold level of public aid	When reached
	Income [a]	Unemployment	Aid	Aidsq				
5	−0.63	[c] 4.36	[c] −1.97	[c] 1.97	.7850	1.59	175.64	74-75

[a] Different versions of the income variable are used in the various models. The income measures are, respectively, income, log income, income squared, the reciprocal of income, and a quadratic form of income, income and income squared.
[b] The R^{2} is adjusted for degrees of freedom.
[c] Significant at the 5 percent level, one-tailed test.

Source: Authors' calculations.

Child Poverty in the Individual States

The phenomenon of differential sensitivity of child poverty to the factors that influence poverty is confirmed by an analysis of the child poverty rates for the individual States of the United States at the time of the last two decennial censuses. They show an astounding degree of variation. At one extreme, New Jersey, the poverty rate among children rose by 53.2 percent between 1969 and 1979 while, at the other Wyoming, it fell by 34.7 percent. And, these are not mere isolated cases. In between, a number of States had increases in child poverty of more than 20 percent and many had decreases in child poverty of more than 20 percent. State-by-State data describing the percentage change in the child poverty rate between 1969 and 1979 are shown in Table 7-3.

TABLE 7-3.—PERCENTAGE CHANGE IN POVERTY RATE AMONG RELATED CHILDREN UNDER AGE 18, BY STATE, UNITED STATES, 1969-79

State	Percentage change in poverty rate
Alabama	−19.5
Arizona	−7.8
Arkansas	−25.2
California	19.7
Colorado	−9.4
Connecticut	46.2
Delaware	26.8
Florida	−3.6
Georgia	−12.4
Idaho	12.6
Illinois	35.5
Indiana	28.0
Iowa	13.9
Kansas	−5.0
Kentucky	−13.3
Louisiana	−21.7
Maine	9.0
Maryland	8.7
Massachusetts	48.9
Michigan	41.5
Minnesota	7.3
Mississippi	−26.4
Missouri	−2.0
Montana	3.8
Nebraska	−0.8

TABLE 7-3.—PERCENTAGE CHANGE IN POVERTY RATE AMONG RELATED CHILDREN UNDER AGE 18, BY STATE, UNITED STATES, 1969-79—Continued

State	Percentage change in poverty rate
Nevada	9.9
New Hampshire	19.0
New Jersey	53.2
New Mexico	−17.2
New York	49.6
North Carolina	−22.5
North Dakota	−10.1
Ohio	32.0
Oklahoma	−20.3
Oregon	11.1
Pennsylvania	27.5
Rhode Island	16.2
South Carolina	−26.8
South Dakota	5.8
Tennessee	−16.3
Texas	−13.8
Utah	0.9
Vermont	20.9
Virginia	−17.2
Washington	17.3
West Virginia	−23.9
Wisconsin	16.9
Wyoming	−34.7

Source: U.S. Bureau of the Census, Decennial Censuses, 1970 and 1980.

The basic child poverty data for 1979 have been used to estimate a regional version of the Poverty-Welfare Curve for children, just as was done in the case of the overall poverty rate. The results are extremely similar, although the threshold level of public aid, AFDC payments in this case, is slightly less in the case of children. Some 15 States, with about 44 percent of the population in 1980, had levels of aid in excess of the threshold. These States averaged a 26.1 percent *increase* in child poverty over the decade 1969-79. By contrast, the 15 States with the lowest levels of AFDC payments showed an average *decrease* in child poverty of 14.9 percent. While this is a dramatic difference, it might be that it is the result of differing economic conditions in the 1970's in these groups of States. However, this is not the case. After controlling for differences in the rate of real economic growth between 1969 and 1979, there is a strong statistical relationship of a *positive* character between the level of AFDC payments, by State, and the percentage change in the child poverty rate, as indicated by the following regression equation:

$$(1)\ \%\Delta PC_i = 24.28 + \underset{(4.87)}{0.1267A_i} - \underset{(8.83)}{1.9905\ \%\Delta Y_i},\ \bar{R}^2 = .8441$$

where $\%\Delta\ PC_i$ denotes the percentage change in the child poverty rate in the ith State. A_i represents the level of AFDC payments in the ith State, $\%\Delta\bar{Y}_i$, is the rate of growth in real per capita income between 1969 and 1979 in the various States, and the values in parentheses are t-statistics. Both the AFDC and income growth variables are highly significant in a statistical sense.

Child Poverty Under Different Household Arrangements

Poverty among children occurs under widely differing sets of household arrangements. It is especially useful to distinguish between those instances in which the head of household is female, with no husband present, and situations where the head of household is male. Historically, the rate of poverty in female headed households has been much greater than in male headed households and this is even more true where children in these households are concerned. Table 7-4 provides details for the period 1959-84.

TABLE 7-4.—CHILD POVERTY RATES, BY SEX OF HEAD OF HOUSEHOLD, UNITED STATES, 1959-84

[In percent]

Year	Child poverty rate	
	Male head of household	Female head of household
1959	22.4	72.2
1960	22.3	68.4
1961	21.0	65.1
1962	19.9	70.2
1963	18.0	66.6
1964	18.2	62.3
1965	15.7	64.2
1966	12.6	58.2
1967	11.5	54.3
1968	10.2	55.2
1969	8.6	54.4
1970	9.2	53.0
1971	9.3	53.1
1972	8.6	53.1
1973	7.6	52.1
1974	8.3	51.5
1975	9.8	52.7
1976	8.5	52.0
1977	8.5	50.3
1978	7.9	50.6
1979	8.5	48.6
1980	10.4	50.8
1981	11.6	52.3
1982	13.0	56.0
1983	13.5	55.0
1984	12.5	54.0

Source: U.S. Bureau of the Census, Current Population Reports, P-60 series, various issues.

The pronounced difference between the rate of poverty among children living in households with a female head, 54.0 percent in 1984, and those living in households where the head is male, 12.5 percent in that same year, raises the possibility that the impact of public aid payments on poverty rates among children will differ in the two types of households. To examine that possibility, we have estimated the basic poverty model using data describing child poverty by sex of the head of household. The results are summarized in Table 7-5. They show exactly the same pattern of relationships that we have previously identified. Beyond some level of public aid payments, aid becomes counterproductive, whether the head of household is male or female. Thus, the behavioral patterns that un-

derlie the phenomenon of the Poverty-Welfare Curve do not appear to be sex specific.

TABLE 7-5.—ANALYSIS OF CHILD POVERTY, BY SEX OF HEAD OF HOUSEHOLD, UNITED STATES, 1959-83

Sex of Householder	t-Statistic for Aid Variables		R^2	D-W
	Aid	Aid squared		
Male	[1] −4.91	[1] 5.89	.9578	1.90
Female	[1] −1.98	[1] 2.25	.9060	2.04

[1] Significant at 5 percent level, one-tailed test.

Source: Authors' calculations.

The Economic Rationale of Child Poverty

The evidence seems clear that the poverty-non-poverty choices implicit in the concepts of the "new" structural poverty and the Poverty-Welfare Curve spill over into the poverty experience of children. Some insight into why this is the case can be obtained by considering the relationship between the costs of rearing children and the poverty benefits they receive from various agencies of government. Data are available for the latter portion of the decade of the 1970's which indicate the following:[1]

(1) Until a poverty child reaches age 12, the welfare benefits received exceed the marginal costs of rearing the child.

(2) For a child that stays in the household for 17 years, the present value of welfare benefits exceeds the cost of child rearing by $3,000.[2]

Thus, the array of government programs oriented toward helping poor children, on average, has the effect of providing the parent(s) with a lump sum grant of approximately $3,000 for every child reared in poverty.[3] Having children is a potentially profitable activity for the poor, a fact that is recognized by the poor themselves. A recent *Los Angeles Times* poll found that, among the poor who were surveyed, almost three out of four felt that, "poor young women often have babies so they can collect welfare." [4]

Quantitative Dimensions of the Child Poverty Problem

We turn now to the question of the importance, in a quantitative sense, of the link between the availability of public aid and the in-

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[1] We summarize here a more detailed argument made in our, " 'Suffer the Little Children': The True Casualties of the War on Poverty," in *War on Poverty—Victory or Defeat?* Hearing, Subcommittee on Monetary and Fiscal Policy, Joint Economic Committee of the Congress of the United States, 99th Cong. 1st sess. (Washington, DC: U.S. Government Printing Office, 1986), pp. 48-63.

[2] The data for benefits are taken from Table 6-4, *Children in Poverty*, Committee Print, Committee on Ways and Means, U.S. House of Representatives (Washington, DC: U.S. Government Printing Office, 1985), p. 182. The cost information is from U.S. Department of Agriculture, Agricultural Research Service, *USDA Estimates of the Cost of Raising a Child, a Guide to Their Use and Interpretation*, Miscellaneous Publication No. 1411 (Washington, DC: U.S. Government Printing Office, 1981), updated.

[3] Assuming a 3 percent *real* discount rate, the exact figure is $2,969, in 1983 prices. For a variety of reasons, we feel this is a minimum estimate. Details are available in " 'Suffer the Little Children': * * *," op. cit.

[4] The poll results are reported in I. A. Lewis and William Scheider, "Hard Times: The Public on Poverty," *Public Opinion*, June/July 1985, pp. 2-7.

cidence of poverty among children. Based on the statistical models reported earlier, it is estimated that had the public aid payments remained at their 1969 levels, the poverty rate among children in 1984 would have been 3.9 percentage points lower than the reported rate of 21.0 percent. Consequently, it appears that poverty among children was over 20 percent greater than it would have been in the absense of the massive post-1969 growth in the number and size of Federal programs that make up the statistical category "Federal public aid." This translates into some 2½ million additional children who have been added to the poverty rolls by the "welfare system."

Some Confirming Evidence

The basic emphasis of this discussion has been on the importance of the effect of work disincentives on poverty among children. Simply put, we are arguing that the labor supply decisions of parents of children are a vital determinant of the poverty status of their offspring. This thesis is powerfully confirmed by the data reported in a paper by Greg Duncan and Willard Rogers.[5] Using data from the Panel Study of Income Dynamics (PSID) of the Survey Research Center at the University of Michigan, they present an analysis of the transitions into and out of poverty among children. The sources of transition they report can be classified into four categories:

(1) Changes in family structure, i.e., movement from a two to a one parent family, or vice-versa.

(2) A significant change in the incidence of unemployment.

(3) A change of 500 hours or more in the annual number of hours worked by a family member *for reasons other than unemployment.*

(4) A change in the disability status of the head of the family.

Using their data, we have calculated the relative importance of these four types of changes on the movements into and out of poverty among children that are observed in the PSID. The results are summarized in Table 7-6. By far, the single most important factor in producing an alteration in the poverty status of a child is a change in the hours of work, i.e., the labor supply of a household member. In the case of movements into poverty, this type of labor supply change accounts for 47.3 percent of transitions into poverty in their sample. A movement from a two to a one parent family is the reason for a little over 20 percent of shifts to a poverty status and an increase in the incidence of unemployment for the household head also explains slightly more than 20 percent of the adverse transitions. The remainder, 9.5 percent, are the product of the family head becoming disabled.

[5] Greg J. Duncan and Willard Rogers, "A Demographic Analysis of Childhood Poverty," Survey Research Center, University of Michigan, 1984.

TABLE 7-6.—RELATIVE IMPORTANCE OF VARIOUS SOURCES OF POVERTY TRANSITIONS AMONG CHILDREN

[In percent]

Source	Nature of transition	
	Into poverty	Out of Poverty
Change in family structure	21.1	17.7
Change in unemployment status of household head	22.0	21.9
Change in labor supply of a family member	47.3	56.1
Change in disability status of family head	9.5	4.4
Total [1]	99.9	100.1

[1] Total does not add to 100.00 due to rounding.

Source: Greg J. Duncan and Willard Rogers, "A Demographic Analysis of Childhood Poverty," Survey Research Center, University of Michigan, 1984.

Looked at from the standpoint of movements out of poverty, the labor supply response of family members is even more important, accounting for 56.1 percent of such transitions. Again, shifts in family structure (from a one to two parent family) and a change in unemployment status (a decrease) are of roughly equal importance while a movement from being disabled to not being disabled explains only 4.4 percent of positive poverty transitions. Clearly, the major determinant of movements into and out of poverty is the labor supply decisions of members of the family. And, since only 20 percent of poverty children are "born" into the condition,[6] this means that the major factor in explaining poverty among them is these labor supply decisions.

[6] Mary Jo Bane, "Household Composition and Poverty," presented at a conference on "Poverty and Policy: Retrospect and Prospects," held in Williamsburg, VA, Dec. 6-8, 1984. It is also available from institute for Research on Poverty, University of Wisconsion at Madison, 1984.

VIII. PUBLIC ASSISTANCE PROGRAMS: THE PROBLEM OF REACHING THE POOR

We have discussed extensively the general problem of the impact of various forms of public assistance on the labor force behavior of the poor and near poor, with special emphasis on the possibility that the work disincentive effects of public assistance will shift people downwards across the poverty threshold level of money income. One of the major contributing factors to this phenomenon is the availability of substantial amounts of public assistance to people who have levels of money income that are in excess of the official poverty threshold. There is a "targeting" problem in the American system of providing assistance to the needy. To illustrate, consider the simple statistics presented in Table 8-1. They show the number of households receiving some form of assistance in 1984, classified by whether the assistance is of the cash or noncash (means tested) variety and by whether the household is poor or nonpoor, as determined by the official definitions of such status.[1]

TABLE 8-1.—RECIPIENTS OF CASH AND NONCASH, MEANS TESTED, GOVERNMENT BENEFITS, BY POVERTY STATUS, UNITED STATES, 1984

Type of benefit	Poverty status	
	Above poverty threshold	Below poverty threshold
Cash:		
Number	2,399,000	4,458,000
Percent	35.0	65.0
Noncash:		
Number	7,377,000	7,258,000
Percent	50.3	49.7

Source: U.S. Bureau of the Census, Current Population Reports, series P-60, No. 150, Table 10.

We turn first to the matter of cash transfers to low-income households. In 1984, some 6,858,000 households received money income payments of this type. Of that number, 4,458,000 (65 percent) had money income levels that were less than the official poverty threshold. However, 2,399,000 (35 percent) with income levels in excess of the poverty threshold also received cash payments. Amazingly, 16,000 households were recipients of either cash public assistance or supplemental security income (SSI) where the family income was $75,000 or more.[2] And, 199,000 households with an

[1] U.S. Bureau of the Census, *Current Population Reports, Characteristics of Households and Persons Receiving Selected Noncash Benefits, 1984*, series P-60, No. 150 (Washington, DC: U.S. Government Printing Office, 1985), Table 10.

[2] The cash payments are of the aid for families with dependent children (AFDC) variety, plus other assistance and supplemental security income (SSI) payments.

annual income of $35,000 or more received such payments. A more detailed description of the income levels of households receiving either public assistance or SSI payments in shown in Table 8-2.

TABLE 8-2.—NUMBER AND PERCENT OF HOUSEHOLDS WITH INDIVIDUALS RECEIVING CASH WELFARE TYPE BENEFITS, BY INCOME CLASS, UNITED STATES, 1984

Household income (dollars)	Number of households with individuals receiving benefits	Percent of all households receiving these benefits
Total	4,897,000	[1] 100.0
0 or loss to 9,999	3,237,000	66.1
10,000 to 14,999	674,000	13.8
15,000 to 19,999	313,000	6.4
20,000 to 24,999	236,000	4.8
25,000 to 34,999	238,000	4.9
35,000 to 49,999	132,000	2.7
50,000 to 59,999	33,000	0.7
60,000 to 74,999	18,000	0.4
75,000 and over	16,000	0.3

[1] Individual income class percentages do not add to 100 due to rounding error.

Source: U.S. Bureau of the Census, Current Population Reports, series P-60, No. 151, Table 25.

The story is even more stark in the case of noncash (means-tested) benefits. This category embraces the following programs: (1) The provision of food stamps, (2) subsidized school lunches, (3) subsidized public housing, and (4) medicaid. 14,594,000 households received such benefits in 1984, split almost evenly between poor households (50.3 percent) and nonpoor households (49.7 percent). This means that there were 7,258,000 nonpoor households receiving benefits from these programs. To illustrate the extent of the availability of noncash benefits to those with incomes above the poverty threshold, among households with $20,000 or more in income in 1984, 398,000 received food stamps (at a total taxpayer cost of $315 million); 1,005,000 were recipients of subsidized school lunches; 251,000 lived in subsidized public housing; and 1,177,000 were beneficiaries of medicaid.

There is some overlap between the nonpoor who receive cash and noncash benefits. Among the 2,399,000 with cash benefits, 92.6 percent also receive at least one noncash benefit. Many receive more than one. The average for these 2,222,000 households is 1.66 benefits per household. Table 8-3 provides detailed information on the availability of noncash benefits to the nonpoor who are also receiving cash benefits. When this overlap is taken into account, we find that 7,514,000 nonpoor households were receiving either cash or noncash benefits, or some combination of the two, in 1984.

TABLE 8–3.—NUMBER OF NONPOOR RECEIVING CASH BENEFITS, BY NONCASH, MEANS-TESTED BENEFITS RECEIVED

[In thousands]

Type of benefit	Number of recipients
Cash	2,399
At least one noncash benefit	2,222
Type of noncash benefit [1]	
Food stamps	859
Subsidized school lunch	410
Subsidized public housing	278
Medicaid	2,138

[1] Benefits add to more than 2,222,000 because many households receive more than 1 benefit.

Source: U.S. Bureau of the Census, "Current Population Reports," series P–60, No. 150, Table 10.

The data are sufficiently detailed to provide a breakdown of the availability of noncash benefits for nonpoor households receiving either aid for families with dependent children (AFDC) payments or public assistance. There were 1,075,000 such households in 1984 and 94.2 percent (1,013,000) of them had an average of 1.99 noncash benefits per household, including 595,000 receiving food stamps, 319,000 benefiting from subsidized school lunches, 130,000 living in subsidized public housing, and 972,000 on the medicaid rolls.

What about the other side of the coin, the effectiveness of our social safety net programs in reaching the certified poor? In the aggregate, the record is not very good. Of the 11,887,000 poor households in 1984, some 4,570,000 received neither cash or means-tested noncash benefits. This amounts to 38.4 percent of all households. Apparently, a substantial number of the official poor are "missed" by the social safety net in America.

Variations in Access to Benefits by Sex of Household Head

The performance of the assistance system in targeting the poor varies substantially according to the nature of the household. In general, poor households with a female head and no husband present have much greater access than other poor households to the various programs that are aimed at helping the poor in American. Slightly less than 30 percent of poor households have a female head with no husband present. Yet, those households account for 49.4 percent of the poor recipients of cash benefits and 51.1 percent of the poor who are the beneficiaries of the noncash means-tested benefit programs.[3] All told, 85.6 percent of poor female headed households with no husband present are receiving some form of public assistance. On the other hand, only 50.8 percent of other households have access to benefits.

The differential access to benefits among the poor suggests that there might be variations in the volume of work effort by household group. The available data indicate that among poor female headed households, the head of household worked full time in 1984

[3] This calculation treats each benefit received as a separate entity, independent of whether a household is receiving more than one noncash benefit. On average, each female headed poor households accounts for 2.16 noncash benefit experiences. Other households average 0.88 such benefits.

(50–52 weeks out of the year) only 7.2 percent of the time. In the case of the other poor households, the percentage was almost four times as great, 26.8. A similar pattern is found when the proportions of those who did not work at all are examined. In the case of female headed poor households, that percentage is 62.5 while for other poor households it is 40.7. Clearly, there appears to be far less work effort forthcoming in poor households that participate to a greater extent in the social welfare programs offered in American society.

The key factor in this differential propensity to receive benefits appears to be the relative access to cash benefits. Among nonfemale headed poor households, 24.6 percent have noncash benefits without being the recipient of cash welfare payments. The comparable percentage for households with a female head is 22.6. However, over three-fifths of female headed households (63.0 percent) have cash benefits, compared to a little over one-fourth (26.9 percent) among other poor households.

Work Activity and Child Rearing Circumstances

Of course, there is the possibility that the variations in work activity between male and female headed households are the result of the demands of child rearing on female heads of household. To explore that possibility, 1983 data on the work activity of poor and nonpoor mothers with children of similar ages have been assembled.[4] It is shown in Table 8–4. Among women with only children under the age of 6 years, 65.8 percent of poor women did not work during the year compared to only 32.0 percent of nonpoor women. When there were both children under the age of 6 and aged 6 to 17, the pertinent percentages are 67.2 percent not working among poor mothers and 38.8 percent not working among nonpoor mothers. Finally, where there were only children aged 6 to 17, the percentage not working among poor mothers was greater by 56.5 to 24.6.

TABLE 8–4.—PERCENT MOTHERS NOT WORKING AND NOT WORKING BECAUSE OF "KEEPING HOUSE," BY AGE OF CHILDREN AND POVERTY STATUS, UNITED STATES, 1983

Work status	Age of children and poverty status					
	Under 6 only		Under 6 and 6 to 17		6 to 17 only	
	Poor	Nonpoor	Poor	Nonpoor	Poor	Nonpoor
Percent not working	65.8	32.0	67.2	38.8	56.5	24.6
Percent not working because "keeping house"	50.4	28.3	56.3	36.4	36.4	21.1

Source: U.S. Bureau of the Census, "Current Population Reports," series P–60, No. 147, Table 29.

What about the possibility that these observed differences simply reflect a relative lack of available jobs for poor mothers? Perhaps they want to work but simply can't find jobs. This is apparently not the case. The data source contains information on the reasons that mothers give for not working. In the case of poor mothers with

[4] U.S. Bureau of the Census, *Current Population Reports, Characteristics of the Population Below the Poverty Level: 1983*, P–60 series, No. 147 (Washington, DC: U.S. Government Printing Office, 1985), Table 29.

only children less than age 6, 50.4 percent indicated they did not work in order to "keep house." Among nonpoor mothers in the same circumstances, this percentage is 28.3. Where there were both children under and over the age of 6, the percentages are 56.3 for poor mothers and 36.4 for nonpoor. Finally, where there were only children aged 6 to 17, the percentages are 36.4 for poor mothers and 21.1 for nonpoor. Clearly, *poor mothers in similar child rearing circumstances show a greater tendency to refrain from working than do nonpoor mothers.* Of course, this is exactly consistent with the previous evidence that has been reported with respect to the existence of work disincentive effects associated with the receipt of welfare benefits.

The Significance of the "Targeting" Problem

The implications of the rather mixed record with respect to reaching the poor with the various benefit programs that have been established are profound. On the one hand, the widespread provision of benefits to those beyond the poverty threshold level of money income means that benefits are available to many people at the margin of being recorded as being officially in poverty. Consequently, rather small changes in labor force behavior in response to the availability of such benefits can have the effect of shifting someone downwards across the official poverty threshold. For example, a slower job search by someone, brought on by the presence of alternative sources of income (both cash and noncash) can lead to a reduction in the volume of employment and earnings during a year and, at the margin, possibly a movement from nonpoverty to poverty status. In short, the presence of substantial benefits that are means tested for people with money incomes above the poverty threshold provides a set of circumstances that are quite conducive to the operation of the phenomenon we have called the Poverty-Welfare Curve.

In addition, the disparities in the provision of benefits to the poor create inequities in the social assistance system. The evidence is strong that a disproportionate amount of the existing poverty is produced by a relatively few people. Ellwood and Bane have observed this, commenting that, "Only a small fraction of those who enter poverty in any given year will be chronically poor. But people who have long spells of poverty represent a sizable portion of the group we label 'the poor' at any one point in time." [5] How pronounced is this tendency? At any one juncture, those who have been poor 8 or more years constitute 59.1 percent of the poor population. At the same time, among those just entering poverty, the likelihood of a poverty spell of 8 or more years is 18.0 percent. Those 18 percent account for almost three-fifths of observed poverty.

The seriousness of this problem prompted the authors of a 1985 study for the House and Ways and Means Committee to remark, "Although the persistently poor are a relatively small proportion of those who ever become poor, they make up a majority of the total

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[5] David Ellwood and Mary Jo Bane, *Slipping Into and Out of Poverty: The Dynamics of Spells*, National Bureau of Economic Research, Working Paper No. 1199, Harvard University, 1983.

'years in poverty' experienced by the population. * * * if Government's efforts are too narrowly focused on persons experiencing long-term poverty, the majority of those in temporary need may not be served." [6] We would echo these remarks, adding, though, a reminder that it may well be that those government efforts have actually contributed to an increase in long-term poverty. We suspect that the provision of benefits under the various Federal Government programs to help the poor has been disproportionately targeted on the chronically poor and has led to an increase in their numbers as the result of the alterations in labor force behavior that have been produced.

[6] *Children in Poverty*, Committee Print, Committee on Ways and Means, U.S. House of Representatives, 99th Cong., 1st sess. (Washington, DC: U.S. Government Printing Office, 1985), p. 47.

IX. PUBLIC VERSUS PRIVATE CHARITY

Our findings to this point argue quite strongly that the provision of public charity through the welfare system in the United States has produced a number of unanticipated and often perverse effects when evaluated as a device to ease the economic burdens of the poor. Part of the problem is the magnitude of public assistance relative to the private opportunities available to people with low incomes. Part is the "targeting" problem, the inability of the welfare bureaucracy to deliver public assistance to the truly poor.

In addition, there is a third problem: competition between public and private charity. Highly aggregative evidence indicates that as government has become more deeply involved in the business of providing public charity of the welfare type, there has been a systematic decrease in the volume of private support for social welfare activities. For example, in 1955, 22 percent of private charitable contributions were directed toward the provision of social welfare activities. In 1983, that percentage was exactly one-half its 1955 level, 11 percent.[1] This had the effect of reducing real private contributions to social welfare by one-half, since the percentage of people's income contributed to all charitable activities remained quite constant.

More sophisticated evidence along these lines has been developed by Abrams and Schmitz. In an article in the *National Tax Journal*, they identify a systematic *negative* relationship between social welfare spending and private charitable contributions.[2] Their findings indicate that:

> (1) A 10-percent increase in social welfare spending by government produces an average reduction in charitable giving, as reported on itemized individual income tax returns, of $27.
>
> (2) In the aggregate, every dollar of additional social wefare spending by government reduces private contributions by 30 cents.

In effect, it appears that the public social welfare establishment is "crowding-out" private welfare.

The Crowding-Out of Private Charity: A Case Study

We have conducted our own examination of an instance of private charitable activity being supplanted by the public sector. The case in point is the adopting of children. In a sense, this is the ultimate charity, the taking of an individual into one's home as a full-fledged family member. The number of adoptions occurring in the

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[1] See John C. Goodman and Michael D. Stroup, *Privatizing the Welfare State* (Dallas, TX: National Center for Policy Analysis, 1986), Research Report No. 123, pp. 32–33.

[2] Burton A. Abrams and Mark Schmitz, "The Crowding-Out Effect of Governmental Transfers on Private Charitable Contributions: Cross-Section Evidence," *National Tax Journal*, December 1984.

post-World War II period in the United States shows an interesting pattern. Table 9-1 shows the relevant numbers for the year 1951, 1955, and 1957-1975.[3] From the early 1950's through 1970, the trend is steadily upward, rising from 72,000 in 1951 to 175,000 in 1970. After 1970, though, the trend reverses and falls steadily through 1975, at which point the annual number of adoptions is 129,000, *26.3 percent less than the 1970 level.*

TABLE 9-1.—NUMBER OF ADOPTIONS, UNITED STATES, VARIOUS YEARS, 1951-75

Year	Number of adoptions
1951	72,000
1955	93,000
1957	91,000
1958	96,000
1959	102,000
1960	107,000
1961	114,000
1962	121,000
1963	127,000
1964	135,000
1965	142,000
1966	152,000
1967	158,000
1968	166,000
1969	171,000
1970	175,000
1971	169,000
1972	148,000
1973	148,000
1974	138,000
1975	129,000

Source: Penelope Maza, "Adoption Trends: 1944-1975," Child Welfare Research Notes, August 1984

There is a remarkably familiar ring to that pattern and the timing of the turnaround in the volume of adoptions. It almost mirrors what has happened to the poverty rate in the United States, although in the opposite direction. Could it be that the same increase in public aid that we have found to be systematically related to movements in the poverty rate is also an explanatory factor in the trends in adoptions in the United States? The line of reasoning underlying such a hypothesis is quite straightforward. The major source of supply of children for adoption is the never married mother. If the availability of governmental sources of public assistance for never married mothers causes more of them to keep their children, rather than putting them up for adoption, other things equal, the number of adoptions will decrease. Since there does not seem to be any evidence to support the notion that there has been a decrease in the demand for children for adoption, this would seem to be a viable hypothesis. On the question of the demand for children for adoption purposes, one estimate has it that there are 100 available homes for every healthy U.S. infant available for

[3] These data are from Penelope Maza, "Adoption Trends: 1944-1975," *Child Welfare Research Notes*, August 1984, published by the Administration for Children, Youth and Families, Washington, DC.

adoption through private sources.[4] Thus, it appears that the almost exclusive determinant of the number of adoptions is the supply of children.

We have formulated a rather straightforward statistical model to explain variations in the number of children available for adoption. The explanatory variables are (1) the total population from which the adopted children are drawn, (2) the general level of income at the time or place in question, and (3) the availability of public aid. Obviously, it is expected that the larger the population, the greater will be the number of children available for adoption. As to the income variable, it is a measure of the earnings that might be lost as the result of the disruption of labor force activity associated with child rearing by a never married mother. Consequently, higher levels of real income should produce a greater supply of children for adoption. Public aid works in just the opposite direction from income. The more public aid available, the less significant will be income losses attendant on rearing a child that is a potential candidate for adoption. Therefore, a negative relationship between aid and the supply of children available for adoption is anticipated.

With these considerations in mind, we have statistically estimated the relationships shown in Table 9-2. Two versions of the basic model are offered, one using time series data and the other employing information on adoptions by States. The time series data are available on a continuous basis for the interval 1957-75.[5] Using them, we find statistically significant relationships between the number of adoptions that occur and all three of the postulated independent variables. The population measure is self-explanatory, being the total population of the United States. Income is measured by using the real per capita national income statistic previously employed in our analysis of the behavior of the poverty rate. As an index of the availability of aid, we also rely on the data used in the poverty portions of this study, using real Federal public aid per capita.

TABLE 9-2.—STATISTICAL MODELS OF THE DETERMINANTS OF THE NUMBER OF ADOPTIONS, UNITED STATES, 1957-75, AND, BY STATE, 1982

Type of data	t-Statistic for regression coefficient				$\bar{R}^2$	D-W
	Population	Income	Public aid No. 1	Public aid No. 2		
Time series (1957-75)	4.58	2.14	-7.77	NA	.9256	1.97
Cross-section (1982)	17.41	.28	-2.91	-2.23	.8945	NA
Cross-section (1982)	19.46	NA	-3.31	-2.47	.8967	NA

Source: Authors' calculations.

Strictly from the standpoint of statistical significance, the public aid measure is the strongest, showing a t-statistic of 7.77. Quantitatively, a $1 per capita addition to public aid (about $200 million

[4] William Pierce, "Adoption in America," *Policy Forum*, vol. III, No. 2, February 1986, p. 5.

[5] The paucity of data on adoptions was recently lamented by William Pierce, ibid., who remarks (p. 1), "In terms of statistics alone, the 1985 *Statistical Abstract of the United States* illustrates the problem. Federal offices collected numbers on tonnage of Atlantic Ocean perch, boating accidents and kinds of robots sold—but nothing on adoption."

1980 dollars) had the effect of reducing adoptions by 541 per year. Put another way, roughly, every $350,000 (1980 prices) of public aid expenditures at the Federal level had the effect of reducing the number of children available for adoption by one.

The cross-section data provide a powerful conformation of the time series results. The data in this case are for 1982, having been developed by the National Committee for Adoption.[6] Population is simply the Census Bureau estimate of a State's population in 1982. Income is introduced in the form of State per capita personal income. Two variables are employed to measure the availability of public aid: (1) The percentage of a State's population receiving benefits and (2) the dollar level of aid for families with dependent children (AFDC) benefits. Two versions of the model are presented, with and without the income measure. Income, which was the weakest variable in the time series analysis is not significant when cross-section data are used. However, the population and both aid measures are significant at the 1 percent level or beyond.[7]

Taken as a set, the statistical results indicate that the volume of public aid in the United States has had a rather substantial impact on the number of children available for adoption. How great an effect is shown by Figure 9-1. It shows, graphically, the actual number of adoptions that took place during the years 1957-75 and the number of adoptions that would have occurred *had public aid remained at its 1957 level.* The difference between them represents the number of children who would have been adopted into other families in the absence of any growth in the volume of public aid in the United States. In its own way, that difference represents a "crowding out" of a private charitable act by government activity. In effect, the government became the surrogate financial father for these children.

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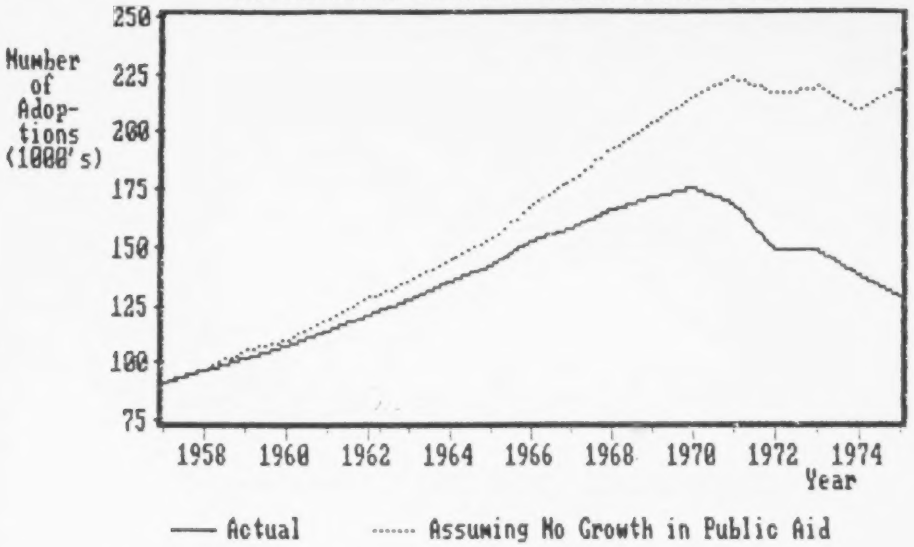
[6] The data are reported in *Adoption Factbook*, published by the National Committee for Adoption, in 1986.

[7] One-tailed tests of significance.

Figure 9-1: Actual Adoptions and Estimated Adoptions in the Absence of Growth in Public Aid Since 1957



Implications of the "Crowding-Out" Phenomenon

The policy implications of public "crowding out" of private charitable activity are substantial. In the previous section of this study, we emphasized the existence of a "targeting" problem in public charity. By its very nature, government provision of social welfare services runs afoul of the targeting dilemma. Rules and regulations must be written that are then applied in an evenhanded fashion across the board. It is inevitable that, in the process of developing these rules and regulations and applying them, some people that were meant to be included will be excluded from programs and others will be included who were not intended to be the beneficiaries of government largesse.[8]

Private charity, on the other hand, can avoid this pitfall to a much greater extent by being deliberately more selective in its actions. Consequently, any problem that puts greater emphasis on private charity vis-a-vis public charity is less likely to be affected by the "targeting" problem.

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[8] These are forms of what Charles Murray, *Losing Ground* (New York: Basic Books, 1984), p. 211, calls, "The Law of Imperfect Selection."

X. THE DECLINE IN THE TRADITIONAL FAMILY IN THE UNITED STATES

Changing trends in poverty and income distribution appear to be intimately related to changes in living arrangements of Americans. At any moment of time, a majority of the American population is not earning income from work, and to a considerable extent these nonworkers are dependent upon relatives, friends, or the State for the financial resources necessary for their subsistence. The physical proximity of these persons to income-earning relatives has a bearing on their economic well-being. Thus any analysis of income and its distribution must consider changing patterns in living arrangements in the American population.

There is overwhelming evidence that the traditional American family is less dominant in the living arrangements of Americans now than at any past date for which data are available. By "traditional family" we are referring to a situation where a married couple is living together in the same dwelling, usually with some or all of their children.

That is not to say that the traditional American family is a thing of the past. To the contrary, more Americans are living in traditional families than ever before, and the overwhelming majority of Americans still live within the conventional nuclear family. The relative importance of the family, however, has undergone a sharp decline.

Table 10-1 shows that the number of families has steadily grown, as has the number living in families. At the same time, however, the number of Americans living outside of families has grown faster. Thus the proportion of the population living outside of families has nearly doubled since the 1950's ard early 1960's. Note the

TABLE 10-1.—U.S. POPULATION LIVING IN FAMILY AND NONFAMILY UNITS, 1950-85

Year	Total resident population [2]	Number of families	Population in families [1]	Population outside families [1]	Percent of total pop. outside Families
1950	151,868	39,303	139,133	12,735	8.39
1955	165,069	41,951	150,604	14,465	8.76
1960	179,979	45,111	165,557	14,422	8.01
1965	193,526	47,956	177,407	16,119	8.33
1970	203,984	51,586	184,678	19,316	9.47
1975	215,465	55,712	190,535	24,930	11.57
1980	227,236	59,550	195,920	31,316	13.78
1985	238,291	62,706	202,540	35,751	15.00

[1] In thousands.

[2] As of July 1. Family population data are for March 1 (Current Population Survey). Nonfamily population is said to equal total population minus the family population, which introduces a slight consistent error over time, to the extent population changed between March and June. Thus the nonfamily population is slightly overstated in all years, and the family population slightly understated.

Source: Authors' calculations from U.S. Bureau of the Census data.

explosive growth of nonfamily living begins in the late 1960's, and accelerates in the 1970's before slowing down somewhat in the early 1980's. Even in recent years, however, the nonfamily population has been growing faster than the population in family units.

The table addresses the growth in nonfamily living arrangements, but not changes *within* the family structure away from the traditional structure headed by a married couple. Table 10–2 shows that the proportion of families outside this traditional structure began to increase sharply after 1970, with no signs of a slowdown in the trend. From 1970 to 1985, the number of families that were *not* headed by married couples rose by an astonishing 81 percent, an increase exceeding 4 percent a year. By contrast, the number of "traditional" families headed by married couples rose by only 12.5 percent, an increase of less than 0.8 percent a year. At the present, about 20 percent of families are of this nontraditional form.

TABLE 10–2.—THE AMERICAN FAMILY AND ITS CHANGING STRUCTURE, 1950–85

Year	Total families [1]	Married couple families [1]	Nonmarried couple families [1]	Percent families non married couples
1950	39,303	34,440	4,863	12.37
1955	41,951	36,378	5,573	13.28
1960	45,111	39,329	5,782	12.82
1965	47,956	41,749	6,207	12.94
1970	51,586	44,755	6,831	13.24
1975	55,716	46,971	8,745	15.70
1980	59,550	49,112	10,438	17.53
1985	62,706	50,350	12,356	19.70

[1] In thousands

Sources: Bureau of the Census and authors' calculations

The proportion of Americans living outside the traditional family arrangement now exceeds 30 percent, as shown in Table 10–3. By contrast, that proportion was below 20 percent as late as 1970. While the traditional family still is the leading form of living arrangement in the United States, its decline in relative importance has been startling since 1970. While detailed historical data are not available, it seems inconceivable that at any time in the history of the Republic has more than 30 percent of the population lived outside families headed by a husband and a wife.

TABLE 10–3.—DISTRIBUTION OF THE AMERICAN POPULATION BY FAMILY STATUS, 1985

Living status	Population [1]	Percent of total population
In married couple families	165,148	69.31
In nontraditional families	37,392	15.69
Outside of families	35,751	15.00

[1] In thousands, resident population only

Source: Authors' calculations from Bureau of Census data

Most of the "nontraditional" families—over 80 percent—in recent years have been female-headed households where no husband was present. Table 10–4 provides more detail on the incidence

of alternative family forms by racial and ethnic cohort. Nontraditional families are far more prevalent among blacks than whites, with Hispanics in between. Barely one-half of black families have both husband and wife present. By contrast, more than five out of six white families are of this type.

TABLE 10–4.—FAMILIES AND WORK CHARACTERISTICS, RACIAL AND ETHNIC GROUPS, 1985

Category	Married couples [1]	Female head, no husband [1]	Male head, no wife [1]	Total [1]
Number of families:				
White	45,643	6,941	1,816	54,000
Percent of total [2]	83.9	12.8	3.4	
Black	3,469	2,964	344	6,778
Percent of total [2]	51.2	43.7	5.1	
Hispanic, any race	2,824	905	210	3,939
Percent of total [2]	71.7	23.0	5.3	
Total	50,350	10,129	2,228	62,706
Percent of total [2]	80.3	16.2	3.6	
Percent of householders working full time, year round:				
White	61.5	39.7	56.7	58.7
Black	54.6	31.5	40.1	43.8
Hispanic, any race	59.3	27.4	55.2	51.7
Total	61.1	37.3	55.4	57.1
Percent of wives, married couple families, working full time, year round:				
White	38.4			
Black	41.7			
Hispanic	31.8			
Total	38.8			

[1] Numbers in thousands.
[2] As percent of the group in question.

Sources: Bureau of the Census, "Current Population Reports," series P–60, No. 151, pp. 26–28, and authors' calculations.

The employment experience of the heads of households (now called "householder" in Census terminology) varies rather considerably with the form of family. Over 61 percent of the heads of married couple households worked full-time year round in 1984. By contrast, the proportion of full-time, year-round workers in female-headed one parent homes was only slightly over 37 percent. Moreover, the table indicates that women tended to work full time as much—actually a bit more—in families where there was a husband (38.8 percent) than where the husband was absent (37.3 percent.) When the husband leaves a family, it would appear it does not positively increase full-time work activity of the female spouse at all.

As a generalization, participation by the head of household in full-time, year-round employment was much greater among whites than blacks, with those of Hispanic origins in between. Nearly 59 percent of white householders work full time, compared with less than 44 percent of black householders. At the same time, however, a major reason for the lower employment rate among blacks was structural; a larger proportion of blacks were in family situations (female head, no husband present) where labor force involvement tended to be low for all groups. Within groups, black employment rates tended to be lower than whites, but not dramatically so (excepting, for some reason, families headed by males with no wife

present). In married couple families, black women had higher rates of full employment than white women.

This all suggests that family arrangements play an important role in determining the employment experience of adults. To the extent factors have contributed to the demise of traditional family arrangements, they have also led to reduced work involvement. That, in turn, has produced a deterioration in economic status for the affected population. *In 1984, the median family income of married couple families, $29,612, was 131.3 percent higher than in single parent families headed by females.* Moreover, this tremendous disparity is not primarily explained by the fact that female head families are disproportionately headed by women outside of prime working age groups who thus are not typically highly employable. The proportion of householders outside the 25- to 64-year-old prime working age groups in 1985 was 22 percent for female single parent family head, and 20 percent for heads of married couple families, hardly a big difference.

Regarding work effort, in all income groups with less than $10,000-a-year median family income, there was an average of less than one wage earner per family; in all income groups over $37,500 a year (median family income), the average number of wage earners was greater than two.[1] Economic status is closely correlated with work effort.

The reduced income arising from lower labor force involvement in nontraditional family arrangements has disproportionate effects on child poverty. Low-income single parent families headed by females are far more children intensive than such low-income married couple families. A majority (54.8 percent) of married couple families with under $10,000 income in 1984 had no children under 18 living at home. By contrast, almost three-fourths of the single-parent female headed families with under $10,000 money income had children under 18 at home. Some 37.4 percent of the single parent female headed low-income families had children under 6 at home, compared with 27.3 percent for the married couple counterpart family. More than 6 million children under 18 lived in single parent female-head households with income under $10,000 a year in 1984—58 percent more than lived in similar economic circumstances in traditional married couple families. The average number of children under 18 per single parent household headed by a female was 1.47 for families with under $10,000 income; the comparable figure for married couple families was 43 percent less, 0.84.

The descriptive statistics strongly suggest that poverty and income inequality are closely related to the employment-reducing effects of a breakup of traditional family arrangements. Earlier, we suggested poverty was closely related to the availability and generosity of public assistance programs, and that beyond some point public assistance induces poverty by discouraging work effort. Does part of that discouragement of work effort come from the impact that public assistance programs have on the nature of household living arrangements? To that question we now turn.

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[1] All statistics in this report are based on the 1985 Current Population Survey, as reported in the U.S. Bureau of Census, *Money Income of Households, Families and Persons in the United States: 1984*, Current Population Reports, P-60, No. 151 (Washington, DC: U.S. Government Printing Office, 1986).

XI. PUBLIC POLICY AND FAMILY LIVING ARRANGEMENTS

It is clear that traditional family living arrangements are less prevalent than previously, and that nontraditional arrangements, especially single parent families headed by females, tend to be associated with poverty. Also, it is clear that there has been a marked increase in public assistance efforts over the years, and that to some extent this has actually induced poverty. Can we say, however, that welfare policies have induced the creation of female-headed one parent families?

In order to examine this question, we gathered two types of evidence. The first is time series data on the rise in the proportion of female headed single parent families. Figure 11-1 shows that the proportion has increased markedly over the past third of a century. The second set of evidence is cross-sectional data on female headed single parent families, for the 50 States and the District of Columbia. With both sets of data, we will relate variations in the proportion of families headed by single parent females to a variable measuring the extent of public assistance, as well as other economic or demographic variables introduced for control purposes.

Figure 11-1
Percent of Families Headed By Females, No Husband Present, 1950-1985

Before proceeding to our evidence, it is worth noting that the association between poverty and changing family status observed in the Current Population Survey data cited above has also been observed independently with greater detail using alternative data sources. Recently, for example, Thomas J. Kniesner, Marjorie B. McElroy, and Steven P. Wilcox have looked at poverty and family structure using the National Longitudinal Survey of Young

Women, which traces the behavior of young women over a 14-year period, 1968 to 1982, that coincides with both the fall and then the later rise in the incidence of poverty.[1] Referring to female heads of household with dependents as FFH (female family householder), the authors conclude on an examination of a sample of 1,038 women, "* * * over 99 percent of whites and almost 97 percent of black initial spells of FFH-poverty commence with a change in family structure." Also, 59 percent of the FFH women are classified as poor the very first time that they are observed in the samples as single mothers.[2] They conclude, "in studying poverty, our research underscores the overwhelming importance of the institution of marriage." [3]

The Time Series Evidence

The hypothesis that generous public assistance payments have contributed to the demise of the traditional family is hardly a novel one. It has been quite vividly advanced in Charles Murray's important book "Losing Ground."[4] Murray, in turn, picked up on a literature dating back to Daniel Patrick Moynihan's pioneering 1965 work on the black family.[5] How consistent is the hypothesis with the historical data? To answer this question, we gathered data on the proportion of families living with a female head of household, no husband present, or FFH, for each year from 1950 to 1983. This variable we will call *F*. The data are annual from the Current Population Survey.[6] We also gathered data on per capita Federal public aid expenditures, denoted *A* in the statistical analysis, the same measure used earlier in our analysis of the poverty-welfare relationship. Unfortunately, at the time this was written, these data were available only through 1983.

Other factors might influence the incidence of FFH families, and failure to include them could conceivably lead to what econometricians call an "omitted variable bias." The period in question had two major wars, in Korea and Vietnam, and the physical separation of young men from families might obviously influence the proportion of female headed households. Accordingly, we introduced a war dummy variable, *W*, that took the value of one in the war years 1950–53 and 1965–72 and zero in other years. Also, it is at least conceivable that family arrangements could be affected by the business cycle and economic conditions, so we introduced the unemployment rate, *U*, as another variable.

It is likely that if changes in public aid availability and generosity were to impact on family formation, that it would take time. It is unlikely that the instant certain types of public assistance pay-

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[1] Thomas J. Kniesner, Marjorie B. McElroy, and Steven P. Wilcox, "Family Structure, Race and the Feminization of Poverty," Duke University, Department of Economics, Working Papers in Economics, No. 86-17 (Durham, NC: 1986, photocopied).

[2] Ibid., pp. 8–9.

[3] Ibid., p. 27.

[4] Charles Murray, *Losing Ground: American Social Policy 1950–1980* (New York: Basic Books, 1984).

[5] Daniel Patrick Moynihan, *The Negro Family: The Case for National Action* (Washington, DC: U.S. Department of Labor, March 1965).

[6] The Current Population Survey of the U.S. Department of Commerce, Bureau of the Census, is a major source of social and economic statistics for social scientists, and is reported annually in various numbers of Current Population Reports, especially in the P-20 and P-60 series.

ments were made more generous, for example, that the husband would move out of the home to allow his spouse to collect them. In our analysis, we experimented with various lags, concluding on the basis of the statistical fit that a 3-year lag seems to best describe the typical behavioral reaction to changes in the amount of public charity in the form of Federal public assistance payments of various kinds. That lag, plus one to accommodate an autoregressive procedure, necessitated limiting the sample to the 30 years 1954 to 1983.

Using ordinary least squares regression analysis, we obtained extremely robust results highly consistent with the Moynihan-Murray view that welfare availability leads to a breakdown in traditional family arrangements:

$$(1)\ F = \underset{}{8.9883} + \underset{(27.107)}{0.0258\ A(-3)} + \underset{(1.355)}{0.1724\ W} + \underset{(1.061)}{0.0471\ U},$$

$$\bar{R}^2 = .987,\ F = 545.3143,\ D\text{-}W = 1.915.$$

The numbers in parentheses are t-statistics; an autoregressive correction technique (the Cochrane-Orcutt method) was used to eliminate the possible existence of serial correlation.[7]

The hypothesis that public assistance payment levels are positively associated with the percent of FFH families is accepted at the 1 percent level. The war dummy and unemployment variables are weak statistically. The model as a whole, however, can explain nearly 99 percent of the variation in the proportion of families headed by females with no husband present.

From the time the War on Poverty was proclaimed by President Lyndon Johnson in 1964 to the time real Federal public aid per capita expenditures peaked in the Carter Administration (1978), such expenditures, in 1980 dollars, rose by $182.70. The statistical findings suggest that this rise alone was associated with a 4.7 percentage point increase, by 1981, in the proportion of American families living without a father present. Put differently, an increase of 2,834,000 families without a father can be attributed to the rise in Federal public aid. Since each of these families has several persons on the average, the total number of affected Americans actually approaches 10 million.

Sometimes, with respect to this question, people raise the issue of the direction of causation. For example, it may be that public assistance payments rise passively in the face of changes in family circumstances. In other words, the magnitude of public aid payments is determined by the change in FFH households, rather than the other way around. In this case, this possibility would seem not to be present owing to the nature of the lagged relationship. The evidence in (1) is that changes in family composition this year were strongly statistically related with changes in public assistance payments *3 years earlier*. Thus logically the causation must be from

[7] The serial correlation problem was in any case not severe, with the Durbin-Watson statistic well within the indeterminant range. Inclusion of the autoregressive term in the model does not materially change the coefficient on the critical public assistance variable, the R^2 term, etc. It does lower the t-statistic obtained for the unemployment variable from 1.75 to 1.06. The autoregressive term is not reported.

public assistance payments to family compositional changes, rather than in the other direction.

To confirm this further, we did run a regression of the form of (1) above in every detail except we made A (real Federal per capita aid expenditures) the dependent variable, and F (percent of families headed by females with no husband present) lagged 3 years the independent variable. Using the same autoregressive adjustment (necessary in this case), the observed relationship between A and F is not statistically significant. This increases our confidence with respect to the direction of causality.

Cross Sectional Findings

Despite the robustness of the above findings, one might still be concerned about the legitimacy of the results. Many things increased in value over time besides public assistance and the percent of FFH families, and possibly one of these "other things" not controlled for is truly the causal factor. One might also argue that per capita Federal public aid is not a precise enough measure of the types of spending that might influence family compositional changes. The major involved program, aid to families with dependent children, is State administered and partly State financed, with policies varying widely across States.

Accordingly, we estimated a cross-sectional model using State-specific data on family composition in the 1980 Census of Population. Our dependent variable, F, is precisely the same as before, but it is for 50 States and the District of Columbia as of April 1, 1980. We use A, the average monthly payment made per family in the AFDC program as our major independent variable. Again, for control purposes we need to introduce other variables that literature suggests may have some bearing on the incidence of female-headed families. For example, the work of Moynihan cited earlier suggests there is a racial dimension to the problem, so we have included B, the proportion of the population of the State that was black in 1980 as an additional variable. Some associate the nontraditional family with urbanization, so we include M, the percent of a State's 1980 population living in a metropolitan area, as another control variable. Finally, the general level of affluence of an area, as reflected in per capita personal income, Y, might influence life styles and the incidence of single parent families.

Using ordinary least squares regression procedures as before, the results again tend to confirm the hypothesis that public assistance payments and the incidence of FFH families are positively related:

$$(2)\ \mathrm{F} = \underset{}{5.3032} + \underset{(3.264)}{0.0138}\ \mathrm{A}(-3) + \underset{(2.670)}{0.0308}\ \mathrm{M} + \underset{(13.517)}{0.2941}\ \mathrm{B} - \underset{(-0.094)}{0.0000}\ \mathrm{Y},\ \bar{\mathrm{R}}^2 = .857,\ \mathrm{F} = 75.646$$

where again the numbers in parentheses are t-statistics. As with the time series data, we lag the public assistance variable 3 years (e.g., a 1977 benefit level change impacts on family composition in 1980). The positive relationship between assistance payment levels and the proportion of female-headed families with no husband is statistically significant at the 1 percent level. Overall, the model

explains over 85 percent of the variation among the 50 States and the District of Columbia. The race and urbanization control variables are also robust, while the income variable has no association with the family composition measure.

The regression coefficient associated with the public assistance variable suggests this factor is an important explanatory factor. For example, compare Texas and New York. Texas had average AFDC benefits per family in 1977 (a 3-year lag is assumed) of $108, while New York had a mean of $367. The model predicts on the basis of this differential that the proportion of FFH families would be 3.56 percent larger in New York. Put differently, if New York had Texas AFDC payment levels in 1977, in 1980 there would have been 159,000 fewer female-headed families in New York State where the husband was absent.

While it might be possible to question the direction of causality in a model where one is looking at the overall amount of public assistance payments, here we are looking at payments per AFDC family, and the determination of those levels is in response to public policies of State legislatures and Governors. Moreover, again, the model has changes in benefit levels influencing family formation at a later date (allowing for lags in behaviorial responses); the question of direction of causality is settled.

Overall the statistical results obtained using quite different data sources produce remarkably similar results, findings that are highly consistent with the Moynihan-Murray view that the welfare system has contributed in an important fashion to the deterioration of traditional family relationships; that deterioration, in turn, led to reduced labor force participation, one reason why the increase in public assistance in the last 15 years probably, on balance, created more poverty than it eliminated.

The findings also provide insight into the relatively large increase in child poverty and in female poverty. Speaking to the latter point, one study recently observed: "the feminization of poverty over the last 15 years stems largely from demographics: a great increase in the number of women in their childbearing years coupled with the (as yet unexplained) secular upward trend in the fraction of unwed mothers."[8] We would argue that public policy in the area of public assistance plays an important role in the *observed changes* in family structure.

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[8] Kniesner, McElroy, and Wilcox, op. cit., p. 27.

XII. PUBLIC POLICY AND DIVORCE [1]

The rise in the incidence of families headed by one parent, usually female, is a phenomenon that is part of a broader pattern of discord developing in American family life in the past two decades. The ultimate resolution of discord between a married couple, of course, is divorce, and the act of divorce is very often responsible for the development of single parent families that so significantly contributes to the poverty problem. An important question, then, is what causes divorce?

Marriage Is a Contract Between Two Trading Partners [2]

In order to understand divorce, one needs to understand marriage. Marriage is a contract between two partners, a contract that allows for more efficient trading of goods and services between the two parties than would be the case without the marriage contract. Just as nations sign bilateral trade agreements, so couples sign marriage contracts. Just as the U.S. awards "most favored nation" treatment to some trading partners, so individuals award "most favored person" treatment to a spouse.

In a voluntary trading situation, each of the partners expects to be better off as a result of the trade. Each of the partners can produce one or more goods or services more efficiently than the other partner, and thus specializes in making those goods and services and exporting some of the output to the other partner in return for goods or services that the second partner can more efficiently produce.[3]

In a traditional marriage as perceived in, say, 1950, the husband produced labor services and thus income, as well as certain physically demanding household services (e.g., mowing the grass), some of which he "exported" (gave or provided) to his wife in exchange for services she provided, such as household upkeep and management, child supervision, etc. Dissolution of the marriage contract, or breaking off the trading relationship, would occur when at least one party perceived that the "terms of trade" had turned against her/him, that is the partner was not getting enough out of the spouse's services for the goods, services, or money provided in exchange.

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[1] This section draws heavily on our just published paper, "Inflation, Migration and Divorce in Contemporary America," in Joseph R. Peden and Fred R. Glahe, eds., *The American Family and the State* (San Francisco: Pacific Research Institute for Public Policy, 1986).

[2] This portion is inspired by the work of Gary Becker. Two studies by Becker are his *Economic Approach to Human Behavior* (Chicago: University of Chicago Press, 1976) and his *Treatise on the Family* (Cambridge: Harvard University Press, 1981).

[3] By "more efficient" we mean "at a lower opportunity cost." Nations sometimes have an absolute productive superiority over a trading partner in virtually everything, but some things more than others. It will export those things in which its absolute advantage in terms of productivity is the greatest, or in which it has a "comparative advantage."

For example, if the wife had previously maintained the relationship in large part because of the income security provided by the husband, she might reconsider the relationship if an alternative income source were available that would relieve her of the necessity of providing all the services currently tendered the husband in exchange for the housing, food, clothing, etc., provided by the husband's intrafamily income transfer to her. If income could somehow be otherwise obtained, the benefits of the marital trade would become less than the costs, so divorce would very possibly occur, or at least separation.

Within the past quarter century, two possible sources of income have become available to wives as alternatives to spousal support. First, changing attitudes about the role of women in the workplace has led to an enormous rise in female labor force participation. Women who previously had not considered working as an option now very often do so. Working to some extent frees the wife from dependence on the husband, reducing the rationale for her providing services to the husband. Likewise, from the husband's perspective, the time spent at work most likely leads to some deterioration in the quality if not quantity of services she provides (dinners are less elegant, the house is less clean, etc.). Hence, other things equal, the rise in female labor force participation might reasonably be expected to have associated with it some increase in the rate of divorce.

A second source of income to the wife is governmentally provided public assistance, in the form of aid to families with dependent children, food stamps (noncash income), medicaid, housing subsidies, etc. The rise of the availability and generosity of these benefits after 1965 greatly enhances the income opportunities of women, reduces the need for a live-in husband, and enhances the prospects for divorce. Other things equal, we would expect the divorce rate to vary directly with the availability of public assistance.

Another way in which government might influence the trading relationship between husbands and wives is through the impact that its macroeconomic policies have on the value of the currency. In particular, beginning in the 1960's, the use of highly expansionary monetary and fiscal policy contributed to an escalating rate of inflation. From 1800 to 1940, prices had been roughly stable over the long term.[4] Accordingly, the very real inflation from 1940 to 1970 had been largely dismissed by people as a byproduct of major wars (e.g., World War II, Korea, and Vietnam) which had always caused short-term inflationary conditions. The rising inflation in the 1960's, in short, was largely unanticipated.

Unanticipated inflation can bring disruption to the trading relationship in the family. The real income flowing from husband to wife may be reduced because of the negative impact of inflation on the husband's real wage. Seemingly prudent investments in savings accounts or bonds rapidly depreciate in value, reducing family wealth. The wife may feel that the husband is not living up to his expected contribution to the trading relationship. This in turn can

[4] Actually, by splicing the BLS wholesale price index with the earlier Warren-Pearson index, we can get a continuous price index from the beginning of the Republic. From 1800 to 1940, the index indicates a *decline* in prices of 11 percent.

lead to an angry wife seeking outside employment, reducing the value of her traded items to the husband as she reduces her traditional household services.

The above discussion is long on theory but short on evidence. Table 12-1 looks at the crude divorce rate (divorces per thousand persons) in the United States by decades, using the mean of annual figures to get a decadal divorce rate. Evidence is also provided on inflation and on real Federal expenditures for public aid, using the same public aid statistic as in our previous analysis of the poverty-welfare relationship.

The two episodes of sharply increasing divorce occurred in the 1940's and the 1970's. Divorce rates fell in the 1950's. Note that both the 1940's and 1970's were periods of high rates of inflation. Note also that both the 1940's and 1970's were eras of rapid increases in labor force participation among females. The 1940's was not a decade of expansion of Federal public aid spending, but the sharply rising expenditures in this area in the 1970's coincides with a rapid rise in divorce in that decade.

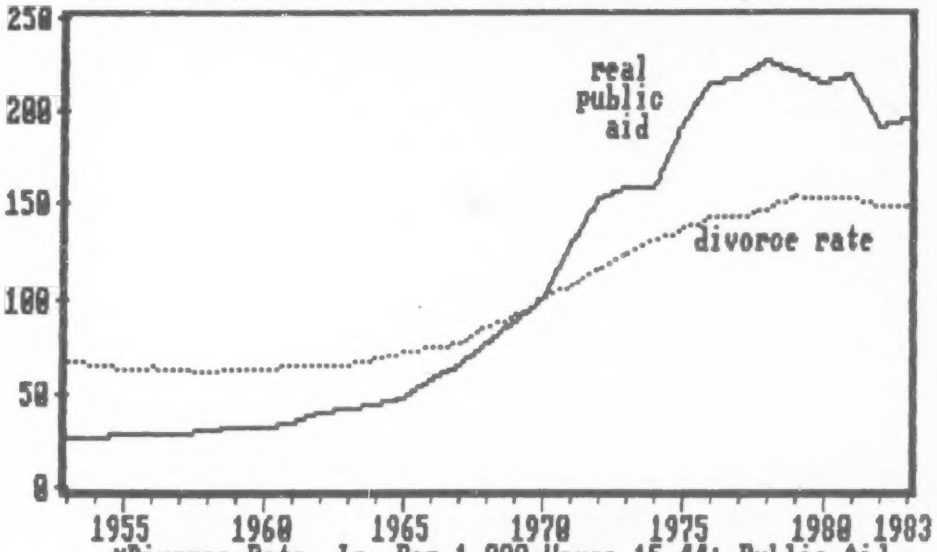
Before 1960, the relationship between Federal aid and divorce appears to be actually negative—Federal financial help reduced marital tensions and divorce. Excepting the 1930's, however, such assistance was relatively modest in this period. After 1960, when public assistance rises to unprecedented heights, the relationship between assistance and the divorce rate becomes positive. Thus it appears that a situation similar to the poverty one exists—public aid in small doses is beneficial in alleviating a problem, but in massive injections has perverse effects that magnify rather than reduce the problem.

The use of decadal data disguises some trends developing within decades. For example, the rise in divorce in the 1980's relative to the 1970's reflects the fact that the 1970's figure is reduced by relatively low rates in the early part of the decade. The 1981-83 average divorce rate, 5.13, is actually less than the average rate for 1978-80, 5.20. The divorce rate may have peaked and begun to decline. Similarly, the use of shorter time periods would reveal that in very recent years real per capita Federla public aid has declined slightly, while the rate of increase in prices has fallen more than the table indicates. Both of these factors, we would predict, should lead to a reduction in the divorce rate, which in fact has begun to occur to a modest extent.

Econometric Evidence

To this point, we have presented only a limited amount of descriptive evidence in support of the theoretical propositions that the divorce rate tends to rise with increasing inflation, public assistance payments and female labor force participation. Certainly as Figure 13-1 illustrates, the casual evidence is that there is a very strong relationship between movements in Federal public aid payments, for example, and the rate of divorce.

Figure 13-1
The Divorce Rate and Real Federal Public Aid, 1953-83



*Divorce Rate Is Per 1,000 Women 15-44; Public Aid Is Per Capita. For both variables, 1970=100.

Nonetheless, more rigorous statistical testing is necessary. How effective are the variables indicated in explaining the growth in divorce? Is the public aid-divorce correlation spurious, with the true causal relationship being between, say, labor force participation and divorce? Econometric analysis is necessary to get at the answer to these questions.

Accordingly, we performed regression analysis on the rate of divorce for the 31-year period 1953 through 1983. The divorce rate used, *D*, is not the crude divorce rate referred to above, but rather the number of divorces per 1,000 married women over the age of 15. The public aid measure, *A*, is real per capita Federal public aid expenditures in 1980 dollars, the measure used extensively in this volume. The inflation rate *P*, is the average of the annual changes in the consumer price index (calculated on a year-to-year basis) in the 3 years previous to the year in question. It is assumed that inflation's effect on marital status takes time to result in divorce, and annual inflation rates are subject to wide fluctuations, a problem mitigated by the use of a moving average. The labor force variable, *W*, is the percent of women 16 or over actually working (as opposed to being in the labor force) during a given year.

The model does an extraordinarily good job in explaining variations in divorce rates over time, with all the variables behaving as expected in a statistically significant (at the 1 percent level) fashion:

$$(1)\ D = \underset{}{0.7813} + \underset{(8.887)}{0.0462\ A} + \underset{(4.761)}{0.3162\ P} + \underset{(3.296)}{0.1883\ W},$$

$$\bar{R}^2 = .9931,\ D\text{-}W = 1.89,\ F = 1083.194.$$

The results are extremely robust, with over 99 percent of the variation in the divorce rate over time explained by the three explanatory factors. To correct for the presence of serial correlation, a moving average adjustment procedure was utilized; the moving average term is omitted from the results. As before, the terms in parentheses are t-statistics.

Alternative formulations of the model were tested to ascertain the stability of the observed results. The sensitivity analysis reveals consistently positive and significant coefficients on the public aid variable, even though in some of the alternative formulations either the inflation or the female labor force variable do not perform in the expected fashion.[5] The results are remarkably similar to those reported elsewhere using different measures of the variables.[6] They further support the hypothesis that generous outlays of public assistance to help lower income Americans has contributed to marital instability and dissolution.

The coefficent for *A* reported in (1) above seems like a small number, but it actually suggests the divorce impact of rising Federal public aid has been very substantial. Indeed, if the statistical estimates in (1) are correct, over 65 percent of the actual rise in the divorce rate between 1965 and 1980 is explainable in terms of the more than quadrupling in real per capita public aid over that period. The current income maintenance programs have not only been relatively unsuccessful in eradicating poverty, they have apparently contributed to marital strife. The implicit hidden social costs are substantial. For example, from (1) it can be calculated

TABLE 12-1.—DIVORCE RATES, INFLATION, PUBLIC AID AND WOMEN WORKING: 1920–83

Decade	Mean divorce rate [1]	Increase, female work rate [2]	Change in prices [3] (percent)	Real per capita federal aid [4]
1920's	1.56	1.1	−16.7	NA
1930's	1.65	1.0	−16.0	$106.44
1940's	2.78	4.0	+71.7	19.96
1950's	2.36	3.4	+23.0	27.41
1960's	2.66	7.8	+31.2	46.45
1970's	4.57	8.5	+112.2	176.36
1980's [5]	5.15	6.8	+70.5	207.16

[1] Divorces per 1,000 population.
[2] Women in labor force, first year of next decade, minus women in labor force, first year of decade in question. For 1960's, the measure is slightly distorted because of change in the age criterion used in measuring the labor force from 14 to 16 in 1966.
[3] Based on percent change in CPI from first year of decade to first year of next decade.
[4] Median of the annual values, in 1980 dollars deflated by the CPI price index. 1930's value is based on average of 1935 and 1940; 1940's value is based on average of 1945 and 1950.
[5] For 1980–83, Work force and price variables are adjusted to decadal levels for comparability purposes; it is assumed trends existing in first 5 years of decade would continue at same rate in last 5 years.

Sources: Donald J. Bogue, *The Population of the United States* (New York: Free Press, 1985); *Social Security Bulletin*, October 1957; *Statistical Astract of the United States*, various years; and Charles Murray, *Losing Ground* (New York: Basic Books, 1984).

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[5] This is in large part a product of the existence of multicolinearity; the zero order correlation between *P* and *W*, for example, is over 0.93.

[6] See our, "Inflation, Migration and Divorce * * *," op. cit. In that paper, we employed 4 year periods for our observations, taking the average of the annual values of the dependent and independent variables.

that each billion dollars (1980 dollars) of public aid creates about 8,000 divorces annually. If one were to assume, for example, that the true average social cost of a divorce were $25,000, then each billion dollars in public assistance outlays induces another $200 million in hidden social costs. While the $25,000 figure is speculative and arbitrary, it does suggest the true cost to society of income maintenance programs may be very significantly understated.

XIII. ILLEGITIMACY AND ABORTION

The evidence above clearly suggests that our system of income maintenance has contributed to significant changes in living arrangements from earlier historical patterns. Divorce and single parent families are closely associated with the existence of public charity. Do Federal income maintenance programs also affect the numbers of offspring? Does public assistance encourage either births or abortions?

Individuals who deliberately plan to have children presumably do so because the perceived benefits of children exceed the perceived costs. The "benefits" in modern times are distinctly nonmonetary in nature in most instances; people generally do not view children as the equivalent of financial "investment," but rather as the acquisition of what might be termed "consumer goods." Where governmental financial assistance is provided where a child is present in a low-income situation, the benefits of having children are both of a monetary and nonmonetary nature, and the addition of monetary benefits may push some couples to have children who otherwise would not. It is not unreasonable, then, to expect the presence of public assistance to lead to some increase in births.

What about abortion? On the one hand, the increased financial aid associated with having children might reduce the incentive to abort an otherwise unwanted pregnancy. But other reasoning suggests that public assistance programs may actually lead to an increase in abortion. Where public assistance payments are relatively generous, the State assumes much of the financial consequences of pregnancy. It pays to have babies born and helps pay to rear them; but is also pays for abortions and to terminate pregnancy. Thus it is possible that by generally reducing the financial consequences of sexual activity, public assistance may increase the incidence of it, leading to an increase in both births and abortions.

An examination of descriptive statistics on average levels of AFDC payments and the rate of abortion tends to support the view that abortion varies directly with payment levels. Taking the seven States (or District of Columbia) with the highest abortion rates (over 35 per 1,000 women of childbearing age) in 1982, we find the seven States had an average monthly AFDC payment of $341.43. By contrast the States with the lowest abortion rates (less than 13 per 1,000) had an average AFDC benefit level, for the nine States, of $218.88. The benefit levels in the high-abortion States were 56 percent higher than in the low-abortion States. Similar findings are obtained when States are categorized on the basis of the size of AFDC payments. Also, similar findings occur if one examines births or pregnancies (defined, not precisely accurately, to equal abortions plus births).

Performing regression analysis on the 50 States and the District of Columbia similar to that in the previous section, we generally

observe a positive relationship between the magnitude of AFDC payments in a State and the rate of births to women 15 to 44. We also observe a positive relationship between AFDC payments and the incidence of abortions among women 15–44. In both models, two additional demographic variables were introduced for control purposes, the proportion of population living in metropolitan areas, *U*, and the proportion of the population that is black, *B*, since the birth rate, in particular, is generally higher among that group. The public assistance variable, *A*, was significant at the 1 percent model in the abortion regression, and at the 10 percent (and almost the 5 percent) level in the birth rate regression. The findings are generally consistent with the view that generous amounts of public assistance lead to people engaging in more pregnancy-inducing sexual activity, since the financial consequences of such actions are less substantial than where such public assistance is not available.

The results are generally somewhat less robust than those reported earlier, and thus we are more cautious in reaching definitive conclusions. The abortion results, reported below, indicate that only 60 percent of the variation in abortion rates, *AB*, is explainable in terms of the model:

$$(1)\ AB = -23.2538 + \underset{(3.847)}{0.0905}\ A + \underset{(1.940)}{0.1878}\ M + \underset{(6.883)}{1.3285}\ B,$$

$$\bar{R}^2 = .60,\ F = 25.874,$$

where numbers in parentheses are t-values. The results suggest a $100 increase in average monthly AFDC benefits for a family, other factors held constant, would lead to a 9.05 per thousand increase in abortions; that number is more than one-third the mean abortion rate reported for all 50 States and the District of Columbia. In short, the AFDC-abortion relationship is relatively strong.

Descriptive statistical analysis supports the hypothesis that the overall pregnancy rate (again assumed to equal the number of live births plus abortions per thousand female population 15–45) is positively related to the average level of public assistance benefits. Table 13–1 shows the mean and median pregnancy rate for the 10 highest AFDC benefit States (based on average monthly benefit per family in 1982), the 10 lowest AFDC benefit States, and the 11 States constituting the middle quintile of States, ranked according to benefit levels.[1] There is a clear progression in pregnancy rates as one moves from low to high levels of benefits. The disparity between high- and low-benefit States of 9 to 11 percent (depending on the measure of central tendency used) may not seem large, but it must be remembered that the AFDC benefit variable impacts on only a small minority of individuals in most States. Considering that, the observed differentials are of considerable magnitude.

[1]There was a tie in levels between two States at the bottom of third quintile, necessitating using 11 States. The District of Columbia is excluded since it is not a State and since its pregnancy experience is several standard deviations in excess of any other State. It is clearly a severe "outlier" that might be legitimately excluded to avoid statistical distortion. Inclusion of the District of Columbia in the calculations would not, however, change the conclusions reached, particularly where the median is used as a measure of central tendency.

TABLE 13–1.—THE RATE OF PREGNANCY PER 1,000 WOMEN OF CHILD-BEARING AGE, 1982

Group of States	Mean pregnancy rate	Median pregnancy rate
Lowest quintile (10 States), mean monthly family AFDC benefits	88.52	85.73
Middle quintile (11 States), mean monthly family AFDC benefits	89.45	89.00
Highest quintile (10 States), mean monthly family AFDC benefits	99.46	93.66

Source: Authors' calculations from Statistical Abstract of the United States, 1986 edition, pp. 67 and 380.

Regression analysis similar to that performed in (1) above using pregnancy rates as the dependent variable produces fairly statistically robust results. A similar model using the birth rate as the dependent variable yields the expected postive relationship, but it is less strong statistically. Accordingly, considerable caution must be exercised in concluding "high AFDC benefits lead to more children," although the evidence does certainly point in that direction.

There has been considerable research done on the question of illegitimate births. Professor C. Winegarden has recently produced impressive evidence, using different data sets than in our analysis, that AFDC benefit levels positively relate to nonwhite illegitimacy. The question of causality arises again, however. Does high illegitimacy lead to high AFDC payments or vice versa?

Winegarden uses Granger causality procedures to deal with this question econometrically.[2] He concludes that the evidence clearly suggests the causality runs from benefits to nonwhite illegitimacy rather than in the opposite direction. His work is consistent with the view that an unintended consequence of public assistance policies has been an increase in the proportion of the population living outside of conventionally favored living arrangements. In other words, it is highly consistent with our other findings cited above.

[2] See C.R. Winegarden, "AFDC Effects on Illegitimacy Ratios: A Granger-Causal Analysis," Working Paper UT 86–01, Department of Economics, Bowling Green State University and the University of Toledo, 1986, photocopied. Professor Winegarden has performed further tests that tend to further confirm the hypothesis that AFCD benefits causally and positively influence nonwhite illegitimacy. The econometric procedures followed by Professor Wingarden are discussed in C.W.J. Granger "Investigating Causal Relationships by Econometric Models and Cross-Spectral Methods," *Econometrica*, July 1969, and in Christoper Sims, "Money, Income and Causality," *American Economic Review*, September 1972.

XIV. PUBLIC POLICY, INCOME GROWTH, AND INCOME DISTRIBUTION

There has been a strong redistributionist thrust to public policy in the United States. Once the commitment to producing equality of outcomes, rather than equality of opportunity, began to dominate the antipoverty programs of government, the die was cast. The approach to dealing with the economic problems of low-income people became one of using the taxing power of the government, especially at the Federal level, to take income from one segment of the population, the relatively more affluent, and redirect it to those who have been less fortunate. Obviously, the intent of this policy has been to reduce the degree of inequality in the distribution of income in the United States.

Inequality and Income Transfers

As we have already observed, the objectives of public policy are not always realized. Consequently, it is worth asking the question, "How successful has this technique been in enhancing the economic position of those in the lower end of the American income distribution?"

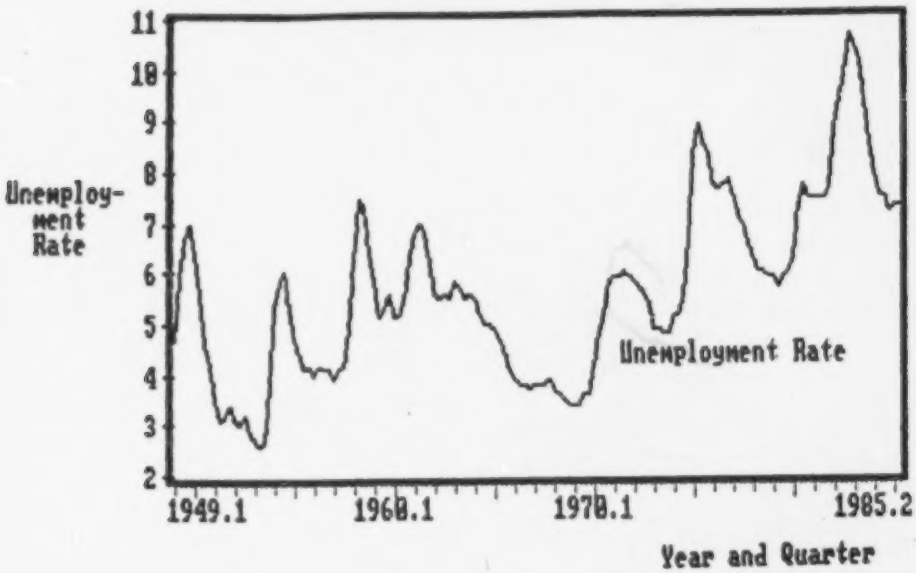
To a certain extent, we have already answered that question. The previously reported analysis of the determinants of the behavior of poverty rates implies quite strongly that the attempt to redistribute income to the less affluent has not been successful. However, some further exploration of this issue is quite revealing.

Earlier, the basic pattern of movement in the Gini coefficient measure of concentration of money income was described. Not unlike the behavior of poverty rates, the Gini coefficient declined in the early years of the post-World War II era but has shown a tendency to increase in more recent times. Specifically, the Gini coefficient reached its minimum value in 1967 and 1968 and has trended upward ever since, increasing by about 9.5 percent. This has occurred coincident with a very substantial increase in the volume of transfer payments in the economy, a source of income commonly felt to have an equalizing effect on the distribution of income. For example, between 1970 and 1983, the percentage of personal income in the form of income transfers rose from 9.9 to 14.8 percent. How can this be reconciled with a systematic rise in the index of income concentration?

A possible explanation may be found in the behavior of the unemployment rate in the United States. Figure 14-1 shows the quarter-by-quarter unemployment rate from 1949 to the present. The cyclical swings in unemployment are apparent. In addition, there is an obvious positive trend in the unemployment rate. In an earlier study, we have presented evidence to indicate that this represents an increase in the equilibrium, or "natural," rate of unemployment

in the United States. Whatever its cause, the implications of the rising unemployment rate for the distribution of income are straightforward. In general, unemployment has a greater impact on the economic fortunes of those toward the bottom of the income distribution. Consequently, higher unemployment rates might reasonably be expected to be associated with greater inequality in the distribution of income, that is, with a higher Gini coefficient.

Figure 14-1: Unemployment Rate, United States, 1949-1985



Beyond the impact of unemployment on the pattern of income distribution in the economy, our previous analysis of the behavior of poverty rates suggests that perhaps the substantial rise in the importance of transfer payments as a source of income has had the unintended effect of *increasing*, instead of decreasing, the degree of inequality found in the income distribution. The mechanism through which this might work has already been described. Very simply, beyond some point the work disincentive effects associated with the receipt of transfer payment income may overwhelm the income enhancing effects of such payments.

All of this is to suggest that the explanation of the behavior of the Gini coefficient in the post-World War II era may be found in the same set of factors that account for movements in the poverty rate. To test this possibility, we have estimated a statistical model in which the Gini coefficient is the dependent variable and the independent variables are the rate of unemployment and both a linear and quadratic measure of the magnitude of income transfers. Several different data series are employed to capture the possible effects of income transfers on the Gini coefficient, including per capita and per poor person Federal public aid, the same measures adjusted to take account of the Weicher analysis of possible biases in the Consumer Price Index (CPI), and total per capita and per poor person public aid in the United States. In addition, we

have also used the volume of total income transfers (in real terms) measured on both a per capita and per poor person basis.

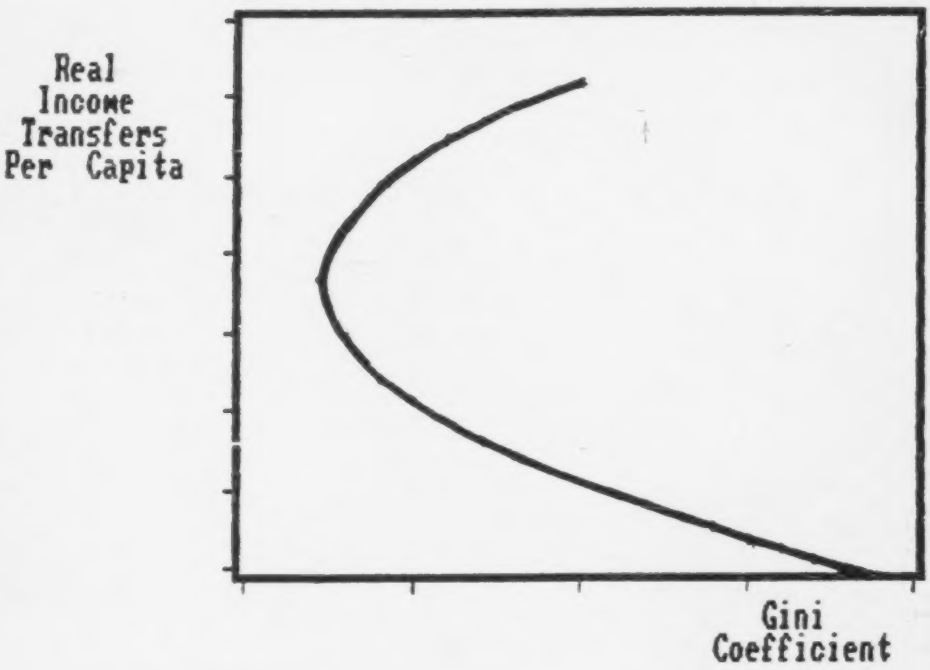
All told, eight different regressions have been estimated and the statistical results are impressive. They are summarized in Table 14–1. Not unexpectedly, the unemployment variable is highly significant in all cases, showing t-statistics ranging from 4.40 to 8.11. As to the income transfer variables, all the linear measures have a negative sign and all the quadratic terms show a positive sign, just as they did in the poverty analysis. For the income transfer measures, seven of the coefficients are significant at the 5 percent level and one at the 10 percent level. Taken as a group, these results indicate the presence of a threshold level of income transfers, beyond which additional payments lead to *an increase in economic inequality*. In short, in addition to the Poverty-Welfare Curve, there also exists an Inequality-Transfer Curve.

TABLE 14–1.—ANALYSIS OF FACTORS INFLUENCING THE BEHAVIOR OF THE GINI COEFFICIENT, UNITED STATES, 1953–83

Nature of Aid variable	t-Statistic			R^2	D–W	Threshold level of aid	When reached
	Unemployment	Aid	Aid ^{2}				
Federal public aid per capita	6.21	−3.63	3.38	0.7735	1.83	$129.80	71–72
Federal public aid per poor person	8.11	−2.79	2.45	.7560	2.03	1,112.38	71–72
Federal public aid per capita (Weicher adjustment)	6.11	−3.80	3.60	.7761	2.01	135.08	71–72
Federal public aid per poor person (Weicher adjustment)	7.94	−2.97	2.65	.7584	2.03	1,145.68	71–72
Total public aid per capita	6.09	−2.39	2.30	.7740	2.03	192.63	70–71
Total public aid per poor person	7.95	−1.71	1.53	.7625	2.02	1,657.47	70–71
Total transfers per capita	4.40	−4.11	3.80	.7697	1.95	876.43	71–72
Total transfers per poor person	7.69	−2.41	1.96	.7572	2.02	7,469.97	71–72

Almost exactly paralleling the analysis of the sources of change in poverty rates, the threshold level of income transfers was reached sometime between 1970 and 1972. To illustrate the character of the Inequality-Transfer Curve relationship, we show a typical version of it in Figure 14–2. It is estimated assuming the unemployment conditions of 1983 using the regression results obtained when the measure of income transfers is total per capita income transfers for the economy. As of 1983, the volume of income transfers was over 60 percent greater than the level that would have minimized the degree of inequality in the income distribution in the United States. This transfer "overhang" has had the effect of increasing the index of income concentration in the United States by about 3.5 percent.

Figure 14-2: The Inequality-Transfer Curve



These findings should not be surprising. There is a substantial body of scholarly literature that documents the operation of disincentive effects arising out of income transfers. The authors of a recent survey of that literature concluded that the cumulative effect of income transfers in the United States had been to reduce the total supply of labor by 4.8 percent.[1] What this suggests is that the growth of transfer sources of income in the United States has had the effect of reducing the degree of association with the labor market of those on the receiving end of such payments. In short, transfer payment income has been substituted for work related income. As long as people attach a positive value to the additional leisure implicit in such a substitution, it is likely that the end product will be a more unequal distribution of money income.

Income Distribution and Taxes

To this point, the treatment of the sources of the observed increase in the index of income concentration has focused on the recipients of transfer payments. However, there is another side of such transactions. In order to finance them, income has to be taxed away from others in the economy. This raises the question of what, if any, impact does the level of taxation in the United States have on the degree of inequality of income distribution. On an *a priori* basis, it is difficult to hypothesize what the effects of taxation

[1] Sheldon Danziger, Robert Haveman, and Robert Plotnick, "How Income Transfer Programs Affect Work, Savings, and Income Distribution: A Critical Review," *Journal of Economic Literature*, vol. XIX (September 1981), p. 996.

might be. To begin, since the income distributions from which the indices of income concentration are calculated are *before taxes and after transfers*, there may well be no effect. On the other hand, given the generally progressive character of much taxation, especially the Federal income tax, higher overall rates of taxation could discourage economic effort disproportionately among those at the upper end of the income distribution, thereby decreasing income inequality. Finally, there is the possibility that the second hypothesis holds, that is, taxation adversely affects the intensity of economic activity among higher income groups, but that the effects of this phenomenon operate in a fashion that reduces the access of those at the lower end of the income distribution to the sources of economic abundance. If this is the case, higher rates of taxation have the potential of increasing the amount of inequality in the overall income distribution.

To evaluate these various alternatives, we have incorporated a measure of the magnitude of income taxation at the Federal level into our statistical model. The variable used is the sum of Federal personal and corporate income taxes, expressed as a percentage of gross national product (GNP). Table 14-2 presents the statistical results, which may be summarized as follows:

(1) Variations in the tax measure have a statistically significant *positive* effect on the index of income concentration, i.e., higher rates of taxation are associated with a greater degree of inequality in the distribution of income. In seven models, the regression coefficient for the tax variable is significant at the 1 percent level or beyond and in the other it is significant at the 2 percent level (two-tailed tests of significance).

(2) Inclusion of the tax rate variable in the statistical model enhances the statistical significance of the other variables. All of the coefficients for the measures of the volume of income transfers are significant at the 5 percent level or beyond and the t-statistics for the unemployment rate coefficients now vary from 6.62 to 10.06.

TABLE 14-2.—FURTHER ANALYSIS OF FACTORS INFLUENCING THE BEHAVIOR OF THE GINI COEFFICIENT, UNITED STATES, 1953-83

Nature of aid variable	t-Statistic				R^2	D-W	Threshold level of aid	When reached
	Unemployment	Aid	Aid^2	Tax rate				
Federal Public Aid Per Capita	8.66	−4.50	3.63	3.21	0.8064	1.93	$158.08	72-73
Federal Public Aid Per Poor Person	9.37	−3.70	2.85	3.03	.7727	1.94	1,391.73	72-73
Federal Public Aid Per Capita (Weicher Adjustment)	7.74	−3.94	3.08	2.59	.7767	1.99	170.72	74-75
Federal Public Aid Per Poor Person (Weicher Adjustment)	9.27	−3.79	2.92	2.98	.7752	1.93	1,452.60	72-73
Total Public Aid Per Capita	9.35	−2.80	2.10	3.32	.8167	1.92	258.42	74-75
Total Public Aid Per Poor Person	10.06	−2.91	2.11	3.57	.8188	1.89	2,231.37	72-73
Total Transfers Per Capita	6.62	−3.92	2.85	2.83	.7981	1.95	1,107.88	73-74
Total Transfers Per Poor Person	9.50	−3.19	2.11	3.30	.7982	1.91	9,782.49	73-74

(3) The regression coefficients for the tax rate variables in the various models are quite stable, ranging from 0.00295 to 0.00394. This indicates that, on average, a 1 percentage point change in the

rate of taxation leads to nearly a 1 percent increase in the amount of income inequality in the United States.

(4) The threshold levels of income transfers, beyond which they generate *more, not less,* inequality are somewhat higher and occur between the years 1972–75.

Some Additional Evidence

Once more, we have looked for other evidence to confirm findings based on time series data. Gini coefficients by individual State have been computed from the 1980 Census data. If the basic relationships we have already described are valid, it should be possible to explain interstate differences in Gini coefficients by variations in public assistance and tax measures, in conjunction with variables designed to control for differences in general economic conditions in the several States. Using a two-stage least squares process for estimating a regression model, we have obtained the relationships shown in Table 14–3 for the appropriate public aid and tax measures. The usual quadratic form of public aid is employed and two tax variables have been introduced, the overall level of taxation and the change in the rate of income taxation during the 1970's. As can be seen from Table 14–3, the public aid variables are highly significant in a statistical sense with the linear term having the usual negative sign (t-statistic = 9.05) and the quadratic having a positive sign (t-statistic = 7.17). This is consistent with the notion that beyond some level of public assistance, in this case AFDC payments, the effect on the income distribution is to make it more unequal.

TABLE 14–3.—SELECTED STATISTICAL RESULTS OF ANALYSIS OF INTERSTATE DIFFERENCES IN GINI COEFFICIENTS, UNITED STATES, 1979 [1]

Independent variable	t-Statistic
AFDC payments per family	−9.05
AFDC payments squared	7.17
Per capita taxes	1.57
Change in rate of income taxation	2.61

[1] The R^2, adjusted for degrees of freedom, of the regression equation is 0.7947.

Source: Authors' calculations.

As to the tax variables, both have positive signs, although the t-statistics are less robust than those for the public aid measure. The change in the rate of income taxation is significant at the 1 percent level and the level of taxation is significant at the 10 percent level (one-tailed tests of significance). Collectively, these results are quite consistent with the time series analysis, suggesting that the conclusions drawn from those data are appropriate.

Taxes and Productivity

This statistical evidence is quite remarkable, indicating, as it does, that high rates of income taxation and high levels of income transfers are associated with greater income inequality in the United States. What might be the specifics of the linkage between these factors and income inequality? We have broadly hinted at

something in the economy associated with the progressivity of the American income tax system.

To be more precise, this notion, in combination with our previous arguments concerning the effect of disincentives in the system, suggests the possibility of some sort of systematic relationship between levels of transfers and taxation and the average productivity of labor in the economy. Again, a statistical test is indicated. Of course, there are other factors that influence the average productivity of labor over time, such as the relative growth in the capital stock and technological progress. We incorporate these in our analysis through the inclusion of a time drift variable in a regression equation that has the average productivity of labor as the dependent variable and, time, the level of taxation (expressed as a percentage of GNP), and total transfers as a percentage of personal income as independent variables. The results of the regression analysis for the period 1953–84 are shown in Table 14–4. All of the variables are statistically significant at the 1 percent level or beyond and the signs confirm our previous analysis. High levels of income transfers and taxation have a *negative* impact on the average productivity of labor.

TABLE 14–4.—DETERMINANTS OF PRODUCTIVITY LEVELS, UNITED STATES, 1953–84

Variable	Coefficient	t-Statistic
Tax rate	−2.07	4.17
Transfers as percent earned personal income	−0.87	2.82
Time	2.28	15.77

[1] Adjusted $R^2 = 0.9897$. Model subjected to ARMA adjustment to correct for serial correlation.

Source: Authors' calculation.

Conclusions

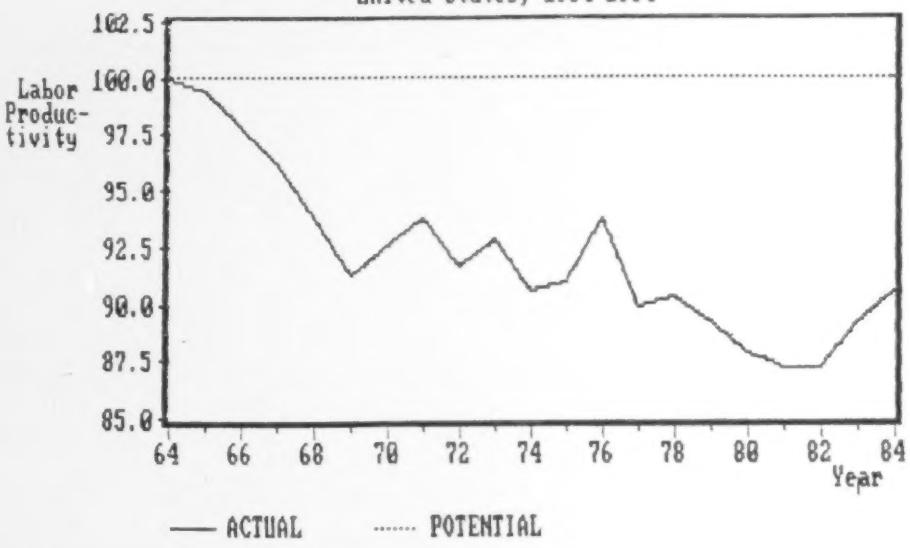
The findings with respect to the relationships between labor productivity and the relative importance of the volume of income transfers and taxation constitute the final link in the explanation for the behavior of the index of income concentration that we have observed. Lower levels of labor productivity, brought on by the direct effects of income transfers and the indirect impact of taxation's freeback effects through the remainder of the economy, reduce the capacity of those most dependent on wage income to claim a portion of the society's output. Put that in combination with the well documented effect of income transfers on the overall supply of labor and it is quite easy to understand why high levels of income transfers and income taxation increase the amount of inequality in the distribution of money income that is observed in American society.

From the standpoint of evaluating the character of American public policy over the past quarter century, these findings are quite important. Clearly, they indicate the very real possibility that a redistributionist emphasis in social policy has led to a substantial reduction in labor productivity and real output in the American economy. If we pick up the story as of 1964, our statistical findings

can be used to provide estimates of what labor productivity would have been in the ensuing years if the relative volume of income transfers and income taxation had remained at their 1964 levels. In effect, such a calculation gives an estimate of "potential" productivity in the United States. It may then be compared with actual productivity.

Figure 14-3 contrasts the actual level of productivity with estimated "potential" productivity. The actual level of productivity is expressed as a percent of "potential" in this diagram. The comparison is dramatic. Beginning in 1965, actual productivity has systematically departed from "potential" on the low side, reaching a minimum in 1981. At that point, labor productivity was almost 13 percent less than its "potential." Since 1981, there has been some improvement, largely due to the reduction in the rate of income taxation, but the average productivity of labor in the American economy still remains almost 10 percent below its "potential", simply because of the expansion of income transfers and the taxes necessary to pay for them.

Figure 14-3: Actual and Potential Labor Productivity, United States, 1964-1984



Put another way, this analysis indicates clearly that, beyond a certain point, an income transfer approach to assisting those with low incomes is what economists call a "negative" sum game, i.e., as income is transferred from one segment of the economy to another, the total amount of available income becomes less than it otherwise would have been. Not only that, but after the income transfers, the poor receive a smaller portion of that income. Thus, they are doubly losers, receiving a reduced share of a smaller overall pie.

XV. WEALTH AND WELFARE

The analysis in this study has depended heavily on one measure of economic well-being; namely, income. Income represents a flow of payments to an economic unit (individual, business, household, family, etc.) over a period of time and is widely accepted as the best economic welfare measure available. Yet, there is an alternative indicator available, wealth. Wealth represents the net accumulation of assets by an economic unit as of one point in time.

Deficiencies of Wealth Statistics in Measuring Economic Welfare

There are at least two reasons why income is the more commonly used measure of economic well-being. First, it, or consumption, which is closely related to it, is generally believed to be the superior means of measuring material enjoyment derived by an economic unit during any given time period. Consider two households, one a widow with $100,000 in wealth, mostly in her home, personal property and some bank accounts. Suppose her income is $9,200 a year, primarily from a $600 a month pension, the remainder from interest payments. Consider secondly a "yuppie" couple with wealth (after debts) of $70,000 in cars, a boat, some house equity, but almost no financial assets. Suppose that couple makes $50,000 a year. By the wealth criteria, the widow is "better off." Yet most persons would feel, in a very real sense, the couple is far more prosperous, far less economically disadvantaged, far less "poor." In that regard, it is interesting that to our knowledge no one has seriously proposed defining poverty in terms of a wealth criterion.

The second reason the income criterion is used most often is that data on wealth are collected sporadically, with less detail and consistency, and are considered of more dubious accuracy than data on income. Thus, only recently has the U.S. Bureau of the Census issued a report on wealth; it provides data regularly and voluminously on income and its growth and distribution.[1] For example, the Current Population Survey annually details income patterns for some 55,000 to 60,000 economic units. By contrast, wealth data, when reported, is usually based on very much smaller samples or is *inferred* for living persons based on the reported estates of deceased individuals. One of the reasons for this is that data on wealth are extremely expensive to gather, whereas income data routinely flow to government statisticians, for example with income tax returns.

Survey data describing wealth patterns generally are derived from relatively small samples. This has the potential for posing serious problems, given the skewness in wealth distributions. Sup-

[1] U.S. Department of Commerce, Bureau of the Census, *Household Wealth and Asset Ownership: 1984*, Current Population Reports, series P-70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986).

pose a random sample of 4,000 households were selected, which is about the number used in a recent study done by the Survey Research Center of the University of Michigan for the Federal Reserve System and other public agencies.[2] Suppose the total net worth of the households in the survey equalled $400 million, with the wealthiest household having net assets of $5 million. Suppose the next 19 households had assets of $55 million. It would be concluded that average household wealth were $100,000 a household ($400 million divided by 4,000), and that the richest one-half of 1 percent (20 households in this case) had 15 percent of total wealth.

Supposing, however, that by chance the wealthiest household selected had wealth of $55 million instead of $5 million. Total wealth for the sample would be $450 million, average household wealth would be 12.5 percent higher, $112,500, and the proportion of total wealth held by the top one-half of 1 percent of wealthholders would be 24.4 percent, over 60 percent higher than the 15 percent previously reported. Part of the problem can be alleviated by use of measures of central tendency less impacted by extreme observations, e.g., the median. This approach was followed by the Census in its recent study, but not in the Survey Research Center study as most recently reported. Thus, *even a single observation in the sample can make enormous differences in reported descriptive sample statistics.* Consequently, comparing results at one point in time with results at another point in time is a very dubious enterprise owing to possible variations in sampling owing to chance.

Similarly, drawing inferences about wealth distributions from the distribution of estate values is somewhat risky. The "estate multiplier" approach used involves making assumptions about the relationship of wealth values of deceased persons relative to living persons. Moreover, given the immense amount of tax avoidance activities undertaken to reduce estate taxes, estate values are often very distorted. In short, extreme caution must be used in evaluating any wealth statistics, and particular caution is necessary in evaluating changes in wealth statistics over time.

Recent Trends in Wealth Growth and Distribution

The topic of wealth growth and distribution has increased recently with the publication of a major new study by the Bureau of the Census based on 1984 data, and by the Federal Reserve and this Committee of data from a smaller sample of households based on 1983 data.[3] Attention here in focused on the Joint Economic Committee report, which is based on the Survey Research Center data, as it draws inferences from earlier surveys.

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[2] Joint Economic Committee, United States Congress, "The Concentration of Wealth in the United States" (Washington, DC: Joint Economic Committee, July 1986). The material in sections XV and XVI was prepared prior to the discovery of a error in the compilation of the Survey Research Center data. That error offers an explanation for the anomalies we observe in the wealth information reported by the Survey Research Center. When the error was discovered, sections XV and XVI were released as a separate Joint Economic Committee study under the title, *The Role of Wealth in American Society.*

[3] See Census Bureau, op. cit., and Joint Economic Committee, op. cit. The Joint Economic Committee study is based on the Survey Research Center findings, which are also reported in, "Survey of Consumer Finances, 1983," Federal Reserve Bulletin, September 1984; "Survey of Consumer Finances, 1983: A Second Report," Federal Reserve Bulletin, December 1984; and "Financial Characteristics of High Income Families," Federal Reserve Bulletin, March 1986.

According to the Joint Economic Committee report, real wealth in the United States almost tripled between 1963 and 1983. The study emphasized that the share of total wealth held by the top one-half of 1 percent of wealthholders rose dramatically, from 25.4 percent to 35.1 percent, with an especially strong increase after 1976. If these data are accurate and earlier studies on wealth cited in the Joint Economic Committee study are also valid, some additional conclusions could be drawn from the recent report:

(1) Real wealth per household has been rising at a 2.95 percent a year rate from 1963 to 1983, far more than real income per capita or real income per household, suggesting that economic welfare may be advancing faster than the income measure suggests (unless one takes the extreme view that the size of the economic "pie" is irrelevant, only its distribution). Given the sharp decline in average household size, real wealth per capita has risen something on the order of 3.5 percent a year, a more than doubling over the two decades.

(2) While the increase in real wealth has not been evenly distributed, even the nonrich (lowest 90 percent of wealthholders) have had their household wealth on the average increase significantly, with the mean real annual growth from 1963 to 1983 approximating 1.88 percent a year, in excess of the increase in income reported using either mean or median measures over the same period. It casts further doubt on the assertions that the economic status of households has deteriorated in recent years, as discussed earlier.

(3) Comparing data from 1976 on wealth, compiled using the estate multiplier approach, with the 1983 data, compiled using survey techniques, it appears the growth in wealth actually increased in the 1976–83 period over that existing from 1963–76.

(4) If one views savings as increases in wealth, our notions on national savings are grievously incorrect. The growth in wealth in the 1976–83 period approximated 40 percent of gross national product for the same era, suggesting the United States may have had one of the highest, if not *the* highest, savings rates in the world.

Possible Distortions in the 1983 Survey Data

While these additional implications of the Survey Research Center wealth data are intriguing, we feel they are highly speculative, as is the argument that there has been a very substantial increase in the concentration of wealth in America. The major reason for approaching these data cautiously is that a detailed examination of them indicates a very substantial probability that they:

(1) Badly overstate the true volume of wealth in the United States, and

(2) Particularly overstate the wealth of those in the top one-half of 1 percent of the wealth distribution.

Why do we feel that this distortion exists? To begin, an examination of the relationship between wealth and income in the United States over time suggests a striking inconsistency in the newly developed data. We draw this conclusion from the evidence shown in Table 15–1, which reports the ratio of wealth to national income in the United States for various years during the time period 1958–76.

These calculations rely on the estate multiplier wealth studies conducted in this interval. As the study recently issued by this Committee notes, "there is evidence that these two approaches [estate-multiplier and direct survey] to measuring wealth arrive at reasonably comparable results." [4]

The most obvious feature of the data reported in Table 15–1 is the persistent decline in the wealth-national income ratio over time. Data are available for 1958, 1962, 1965, 1969, 1972, and 1976. In every year studied after 1958, the wealth-national income ratio is less than it was at the time of the previous study, declining from 3.86 in 1958 to 3.33 in 1976. However, based on the Survey Research Center data, the wealth income ratio is 4.00 in 1983, *a substantial reversal of the historic trend in this statistic.* A simple calculation reveals that if the wealth-national income ratio had continued to decline at the same pace as it did from 1958 through 1976, the 1983 estimate of total wealth would have been *well over $2 trillion lower than reported.* [5]

TABLE 15–1.—RATIO OF WEALTH TO NATIONAL INCOME, UNITED STATES, VARIOUS YEARS, 1958–76

Year	Ratio of wealth to national income
1958	3.86
1962	3.74
1965	3.57
1969	3.51
1972	3.43
1976	3.33

Sources: National income from standard U.S. national income accounts sources. Wealth from summary of "estate-multiplier" wealth studies provided in Table 6, "Concentration of Wealth in the United States," Joint Economic Committee, July 1986.

Is it possible that the wealth estimates under discussion are overstated by that much? A detailed examination of both the 1963 and 1983 survey data suggests an anomaly in them that is fully capable of explaining such a discrepancy. Table 15–2 shows the details of various categories of wealth for both 1963 and 1983, in 1983 dollars. Where the form of wealth existed in both years, the percentage change over the 20-year interval has been calculated. For all wealth, the change is 174.0 percent.

TABLE 15–2.—TOTAL WEALTH, BY TYPE OF ASSET, UNITED STATES, 1963 AND 1983

[In billions of 1983 dollars]

Type of asset	1963	1983	Percentage change
Real estate	$1,890.2	$5,362.3	183.7
Corporate stock	713.8	981.7	37.5
Bonds	164.7	329.6	100.1
Checking accounts	76.6	115.8	51.2
Savings accounts	337.7	189.2	−44.0
Trusts	174.0	491.6	182.5

[4] Joint Economic Committee, op. cit., p. 31.

[5] If the trend in the decline in the wealth-national income ratio had continued at its pace of about 0.03 per year, the 1983 figure would have been 3.12.

TABLE 15–2.—TOTAL WEALTH, BY TYPE OF ASSET, UNITED STATES, 1963 AND 1983—Continued

[In billions of 1983 dollars]

Type of asset	1963	1983	Percentage change
Business assets	908.6	3272.0	260.1
Insurance cash surrender value	156.3	260.8	66.9
Land contracts	83.0	111.2	34.0
Miscellaneous	59.9	157.9	163.6
Total net worth	[1] 3,864.6	[1] 10,587.2	174.0

[1] Subcategories do not add to total due to rounding errors, the existence in 1983 of some classes of assets not found in 1963, and the subtraction of debt from gross assets to obtain net worth.

Source: Data as summarized in Table 4, "Concentration of Wealth in the United States," Joint Economic Committee, July 1986.

Among the individual categories, one in particular stands out in terms of the magnitude of the growth in this form of wealth. It is the category called business assets (net), with a percentage growth between 1963 and 1983 of 260.1 percent. It is also worth noting that this form of wealth is not a trivial one. It accounts for over 30 percent of the estimated wealth in 1983. What exactly is meant by "business assets"? A description of this data class from the recent Joint Economic Committee study states, "All interests in unincorporated businesses, farms, and professional practices are included in this category." [6] Thus, what we are talking about here is simply the assets of unincorporated enterprises in the United States.

The idea that the assets of unincorporated enterprises constitute 30 percent of the wealth of individuals in America is a mind-boggling one. We begin by noting that the reported value of these assets *is greater than the Federal Reserve Board's estimates of the net worth of all nonfinancial American corporation in 1983.*[7] *Given that corporations produced 75 percent of all income generated in the business sector of the American economy in 1983, this seems highly implausible.*[8]

A further confirmation of the unlikelihood of the assets of unincorporated enterprises being of this magnitude is provided by the national income statistics estimates of the income of unincorporated enterprises. In 1983, the income of proprietors is reported as $121.7 billion. Based on the assets reported in the 1983 survey ($3,272.0 billion), this represents a rate of return of 3.7 percent. At a time when the yield on 10-year U.S. Government bonds had averaged 12.47 percent over a 4-year period (1980–83) and still stood at 11.10 percent,[9] It does not stand to reason that the market would value the assets of unincorporated business enterprises at $3,272.0 billion. Interestingly, if the market value of the assets of unincorporated enterprises in 1983 is estimated using an 11.10 percent rate of return, the result is a figure of $1,096.4 billion, *over $2 trillion less than the survey estimate.* At a rate of return of 12.47 percent, the market value of these assets is $975.9 billion. This is very con-

[6] Ibid., p. 46.
[7] Board of Governors of the Federal Reserve System, "Balance Sheets for the U.S. Economy," as reported in Statistical Abstract of the United States, 1986, Table 891.
[8] U.S. Department of Commerce, Bureau of Economic Analysis, "Survey of Current Business," as reported in Statistical Abstract of the United States, 1986, Table 730.
[9] Board of Governors of the Federal Reserve System, Federal Reserve Bulletin, monthly, as summarized in Statistical Abstract of the United States, 1986, Table 856.

sistent with our earlier speculation that wealth is badly overstated in the most recent survey.

Data from the Internal Revenue Service lend credence to the proposition that the "business assets" category is overstated in the 1983 data. As reported on income tax returns, the total receipts of proprietorships and partnerships totaled $731 billion in 1982, producing a net taxable income of $44 billion. On the other hand, the total receipts of corporations were $7.024 billion, yielding a net income of $154 billion.[10] Thus, the net income of the activities of unincorporated business enterprises was less than 30 percent of that of the corporate sector. This is simply not consistent with the proposition that the market value of assets in the unincorporated sector is on a par with those in the corporate. In fact, if they were roughly 30 percent of the new worth of the corporate sector, an estimate of $1 trillion for 1983 seems about right.[11]

Comparisons With Other Recent Studies

Finally, there is the aforementioned Census Bureau survey of wealth holdings for 1984, a year later than the Survey Research Center data were collected. The Census data are based on a sample that is much larger than the Survey Research Center's, involving some 19,900 households. An examination of the data at the aggregate level shows one obvious major difference between them and the Survey Research Center estimates. Total net worth (wealth) is estimated by the Census to be $7.5 trillion, *compared to the $10.6 trillion* in the Survey Research Center data. What accounts for the $3.1 trillion difference in the wealth estimates? As nearly as we can tell, the bulk of this differential occurs in the category of net equity in nonincorporated business enterprises. The Census figure for 1984 for these assets is $770.6 billion (10.3 percent of total net worth), while the Survey Research Center data show a value of $3,272.0 billion (30 percent of net worth). The difference is almost exactly $2½ trillion of wealth, very close to our earlier estimate of how much wealth is overstated in the 1983 survey data.

The Census estimates are quite believable on other grounds. For example, the income of unincorporated enterprises (in 1983 dollars, deflating by the gross national product deflator) in 1963 was $151.5 billion. This is one-sixth of the value of business assets in 1963 (again, in 1983 dollars), as reported in the Joint Economic Committee document. This asset-earnings ratio of 6 to 1 is quite consistent with the Census estimate of the value of these assets. It yields an asset-earnings ratio of 5 to 1 for 1984. By contrast, the Survey Research Center data for 1983 suggest a ratio of almost 27 to 1.

At the risk of being redundant, we also have evidence developed by the Federal Reserve system through the flow of funds accounts.[12] The data are for 1984 and suggest that the Census esti-

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[10] These data are summarized in the Statistical Abstract of the United States, 1986, Table 874.

[11] This is derived by adjusting upwards the 1983 net worth of nonfinancial corporations of $2,815 billion to reflect the contribution to gross national product emanating from the financial sector (estimated to be one-sixth), and multiplying the result by 0.30. The precise estimate is $1,013.4 billion.

[12] These data are summarized on page 52 of the Census Bureau report on wealth, op. cit.

mates are something of an understatement of the value of assets of the type under discusison, by approximately 25 percent. If we adjust the Census Bureau data for unincorporated business equity assets upwards by one-third to account for this possible understatement, we obtain a figure of $1,027.5 billion, still well over $2 trillion less than the value reported in the Survey Research Center data.

In light of these varying strands of evidence, we are led to the conclusion that wealth reported in the form of "business assets" in the 1983 survey of wealth is overstated by *at least $2 trillion.* Exactly how this happened, we are not prepared to say. It well could be simply the vagaries of the sampling process when data distributions with pronounced "skewness" in the data set are sampled.

The Implications of the Error for the Distribution of Wealth

We turn now to the possible impact of the distortion in the estimate of total wealth reported in the 1983 survey on the calculations of the distribution of wealth in the United States. The possibilities here are immense. Wealthholders are classified into four categories in the Joint Economic Committee version of this survey: (1) the top one-half of 1 percent, called the "super-rich"; (2) the next one-half of 1 percent, the "very rich"; (3) the 90th to 99th percentile, the "rich"; and (4) the remainder of the distribution, "everyone else." With respect to the asset category "business assets," the lowest 90 percent of the wealth distribution, "everyone else," held only 6.3 percent of business assets, while the "super-rich" held 58.4 percent.

The overstatement of the magnitude of business assets clearly has a disproportionate effect on the volume of assets held by the upper end of the wealth distribution. To illustrate the nature of this impact, we have recalculated the share of wealth held by the various classifications of wealthholders, *excluding business assets from consideration,* using both the 1963 and 1983 survey data. The comparison of these revised estimates with those including business assets is shown in Table 15–3. Clearly, excluding business assets gives a far different picture of the nature of changes in the the distribution of wealth in the United States. The differences over time, using the revised wealth shares, are quite minor. In fact, the image generated by the alternative set of calculations is one of great stability in distribution of wealth in the United States.

This approach to evaluating the concentration of wealth in the United States might be criticized on the grounds that it eliminates from the calculation a quantitatively important class of assets. Therefore, we have also reestimated the distribution of wealth holdings by using the 1963 distribution of the assets of unincorporated business enterprises in combination with the 1983 estimates of the volume of such assets. The results of these calculations also are reported in Table 15–3. They show very little difference between the 1963 and 1983 wealth distributions. In particular, the top one-half of 1 percent of wealthholders have 25.9 percent of all wealth in 1983, compared to 25.4 percent in 1963.

TABLE 15–3.—REPORTED AND REVISED [1] SHARES OF TOTAL WEALTH, BY PERCENTILES, UNITED STATES, 1963 AND 1983

[In percent]

Percentile	1963		1983			
	Reported	Revised (a)	Reported	Revised (a)	Revised (b)	Revised (c)
Top 1/2 of 1 percent	25.4	24.4	35.1	24.7	25.9	25.4
Next 1/2 of 1 percent	7.4	6.9	6.7	6.2	7.0	5.6
90th to 99th percentile	32.3	30.2	29.9	31.1	33.5	32.3
0 to 90th percentile	34.9	38.4	28.2	38.0	33.6	36.7

[1] Revised(a) calculation excludes business assets from consideration. Revised(b) estimate distributes 1983 reported values for business assets according to 1963 distribution of such assets. Revised(c) estimate distributes $1 trillion in business assets according to 1963 distribution of such assets.

Sources: Data summarized in Table 4, "Concentration of Wealth in the United States," Joint Economic Committee, July 1986; and authors' calculations.

Another possible way to adjust the Survey Research Center wealth shares is to assign a different value to the "business assets" form of wealth. On the basis of the evidence already cited, a figure of $1 trillion would seem to be appropriate. If we then allocate that trillion dollars on the basis of the 1963 proportions of such wealth held by different groups, we can obtain what we consider to be a relatively accurate estimate of the distribution of wealth. This procedure yields results quite similar to the revisions already reported. In particular, the top one-half of 1 percent have only 25.4 percent of total wealth under these assumptions. These estimates are also contained in Table 15–3.

This leads us to the conclusion that the rather massive increase in the share of wealth held by the top one-half of 1 percent of wealthholders observed in the 1983 survey data is simply a statistical artifact that does not reflect any fundamental change in the pattern of wealth holding in the United States.

One further note in this respect. The Census Bureau wealth estimates, with business assets included, show that the top 2 percent of their wealth distribution held only 26 percent of the wealth they identified. We may view this as probably a minimum estimate of the degree of concentration in the wealth distribution, although we note in passing that the Census Bureau estimate is quite consistent with the 1976 wealth data, the last obtained through the use of the estate-multiplier technique.

The Impact of Pension Funds on the Distribution of Wealth

The 1983 Survey Research Center wealth survey does not include the assets of pension funds in the data. This is understandable when the issue of wealth is being approached at the individual level. It is quite difficult to accurately assess the value of any one individual's equity in a pension plan. However, on a broad group basis it is possible to develop estimates of the distribution of these assets. Given that the assets of public and private pension funds in 1983 totaled $1,321.7 billion, which amounts to 16 percent of what we feel is a reasonable estimate of total wealth in the United

States, it would seem to be important to make some assessment of the broad distribution, by wealth class, of pension fund assets.[13]

We approach the problem by distinguishing between pension fund assets in private plans and those in public plans. It is reasonable to expect that the benefits of private plans will be more unequally distributed than those of public plans. For example, the Census Bureau wealth survey indicates that about 20 percent of the coverage of private plans is among people in the top 10 percent of the income distribution.[14] Assuming that the benefits will be roughly proportional to the relative income of those covered, we estimate that about 70 percent of private pension fund assets should be assigned to the bottom 90 percent of the wealth distribution.[15] On the basis of this procedure, we assign $625.9 billion of private pension fund assets to the bottom 90 percent of the wealth distribution and $298.0 billion to the top 10 percent. No attempt is made to provide a more detailed breakdown than this. We feel that the assumptions that would be involved would be too open to question.

As to public pension fund assets, we assign them strictly on the basis of relative income differentials, assigning 73 percent to the bottom 90 percent of the wealth distribution and 27 percent to the top 10 percent. This translates into an additional $312.1 billion in assets for the bottom 90 percent and $115.4 billion for the top 10 percent.

Table 15–4 presents four different estimates of the percentage distribution of wealth between the top 10 percent and bottom 90 percent of wealth holders. Included are our "best" estimate of that distribution without pension funds included, that estimate with pension funds, and the Survey Research Center estimates, with and without pension funds included. Our best estimate, with the adjustment for pension funds, shows that 41.4 percent of wealth is held by the bottom 90 percent of wealthholders. This is *46.8 percent greater than the Survey Research Center estimate without pension funds.* This indicates a much more equal distribution of wealth than that reported in the Survey Research Center study.

TABLE 15–4.—VARIOUS ESTIMATES OF DISTRIBUTION OF WEALTH, UNITED STATES, 1983

[In percent]

Percentile group	Our best estimate		Survey Research Center	
	Without pensions	With pensions	Without pensions	With pensions
Top 10 percent	63.3	58.6	71.8	67.0
Bottom 90 percent	36.7	41.4	28.2	33.0

Sources: "Concentration of Wealth in the United State." Joint Economic Committee, July 1986, and authors' calculations.

While we did not attempt a detailed assignment of pension fund assets to the subgroups of the top 10 percent of the wealth distribution, it is possible to estimate the broad effect of all the adjustments that we have made on the wealth holdings of these groups

[13] As reported in Statistical Abstract of the United States, 1986, Table 621.

[14] This is inferred from data presented in Table J of this study.

[15] In arriving at this figure, we assume that the top 10 percent of the income distribution receives 27 percent of all income and that 20 percent of all those covered by private pension programs are in this group.

by proportionally distributing our best estimate, with pension funds included, across these groups on the basis of our best estimate without pension fund adjustments. When this is done, the top one-half of 1 percent of the wealth distribution have 23.5 percent, the next one-half of 1 percent have 5.2 percent, and the next 9 percent have 29.9 percent of total wealth.

Federal Estate and Gift Taxes and Wealth Accumulation

The 1983 Survey Research Center data are consistent with the view that wealth has increased overall by a very significant amount in real terms from 1963 onward, and that a larger proportion of wealth was held by "the rich" as time went on. Moreover, the study would lead one to believe the wealth-income ratio stayed the same or increased. From 1963 to 1981, Federal estate taxes were largely unchanged in a nominal sense, so one would expect tax revenues to rise as a consequence of both the growth in wealth and the increased concentration of large estates, which are taxable at much higher rates under the highly progressive rate structure under the law prevailing until 1981. In fact, real Federal estate revenues *fell* from 1963 to 1983, despite no dramatic changes in the law (the 1981 changes were phased in over several years and did not have dramatic effects before 1983). Because of bracket creep, the real effective tax rates under the Federal estate tax *rose* over time, yet revenues in a real sense fell. Federal estate and gift tax revenues as a percent of nominal GNP fell from 0.37 percent in 1963 to 0.23 percent in 1981, a decline of nearly 40 percent. This adds further evidence supporting the view that the 1983 Survey Research Center study overstates significantly both the amount of wealth and the skewness in its distribution.

Our earlier discussion essentially is inconsistent with the view that "we need to raise estate taxes in order to eliminate rising wealth inequality," since the best evidence is that wealth inequality has not increased over time. In addition, however, the fall in real Federal estate tax payments during a period when inflation was increasing effective marginal tax rates on those taxes suggests a Laffer effect probably was operating in this area, similar to that found in the area of income taxation. The extremely high (up to 77 percent until 1981) marginal tax rates increased tax avoidance activity, as the proliferation of "estate planning seminars" attests. Thus, the historical evidence suggests that it is highly unlikely that raising estate tax rates would have the intended impact on wealth distribution in any case.

Conclusions

Our assessment of the possibility of using wealth and the distribution of wealth as an index of the well-being of the populace of an economy is a somewhat pessimistic one. While patterns of wealth holding are an intriguing subject to consider, the irregularity with which data are collected and the apparent imperfections of the data, relative to income data, seem to mitigate against the widespread use of wealth statistics to evaluate the efficiency and equity of an economic system, particularly on a short-term basis. As a case in point, we simply note the obvious problems with the Survey

Research Center survey of patterns of wealth holding, which seems to badly misstate the total volume of wealth, as well as its distribution. Fortunately, the 1984 Census Bureau wealth survey appears much less suspect and would seem to be the preferred data source for any detailed examination of the nature of the current distribution of wealth in the United States.

XVI. THE DYNAMICS OF WEALTH AND INCOME INEQUALITY

The preceding analysis indicates that the recent Census Bureau survey of the ownership of wealth is much more consistent with a wide range of other economic statistics and wealth studies than the Survey Research Center findings. This opens up the possibility of a more extended investigation of the nature of inequality in the distribution of wealth and its relationship to inequality in the distribution of income. The much larger sample size in the Survey of Income and Program Participation (SIPP), on which the Census report is based, permits more detailed subclassifications of the population and provides a broader picture of patterns of wealth distribution.

Overall Inequality in the Distribution of Wealth

The detail in the Census data is sufficient to permit the calculation of of a straightforward index of wealth concentration (a Gini coefficient). We have done this, using the information shown in Table 16–1, obtaining a value of 0.688. This is substantially larger than the index of income concentration for 1984 of 0.383, which is not unexpected. It is widely recognized that wealth is more unequally concentrated than income. An important factor in accounting for the greater inequality in the distribution of wealth is the fact that it is a stock of assets, accumulated over a long period of time, whereas income is a flow which occurs in a specific time interval. The stock dimension of wealth means that the period of time in which it has been amassed *differs* for individuals within an economy. Some people have had only a few years to accumulate wealth while others have had almost a full lifetime. This characteristic of the wealth measure introduces an element of variability that is less present when an annual flow of income is being considered.

TABLE 16–1.—PERCENTAGE DISTRIBUTION OF HOUSEHOLDS AND TOTAL NET WORTH, BY HOUSEHOLD NET WORTH, UNITED STATES, 1984

Household net worth	Percent of households	Percent of total net worth
Less than $10,000	32.68	0.49
$10,000 to $24,999	12.37	2.64
$25,000 to $49,999	14.47	6.73
$50,000 to $99,999	19.26	17.53
$100,000 to $249,999	15.31	29.57
$250,000 to $499,999	4.01	17.16
$500,000 and over	1.91	25.87
Total	[1] 100.00	[1] 100.00

[1] Subclassifications do not add to 100.00 due to rounding error.

Source: U.S. Department of Commerce, Bureau of the Census, "Household Wealth and Asset Ownership: 1984," Current Population Reports, series P–70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), Tables 2 and 3, and authors' calculations.

To illustrate the impact of the stock dimension of wealth on the distribution of wealth at a single point in time, mean net worth estimates, by age of asset owners, are shown in Table 16–2. Data are available for seven age classifications and they portray what may be thought of as "the life-cycle" of wealth accumulation. In general, people begin their lives with relatively little wealth, acquire more of it with the passage of time, and then consume a portion of that wealth in their declining years. It is a pattern similar to that observed with income, although the lifetime variation in wealth holdings is far greater than that for income, as is shown by the life cycle income data that are also included in Table 16–2.

TABLE 16–2.—MEDIAN NET WORTH AND MEDIAN FAMILY INCOME BY AGE OF HOUSEHOLDER, UNITED STATES, 1984

Age of householder	Median net worth	Median family income
15 to 34	$5,764	$24,141
35 to 44	35,581	33,389
45 to 54	56,791	36,003
55 to 64	73,664	30,516
65 to 69	66,621	
70 to 74	60,573	18,279
75 and over	55,178	

Sources: U.S. Department of Commerce, Bureau of the Census, "Household Wealth and Asset Ownership: 1984," Current Population Reports, series P–70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), Table E; U.S. Department of Commerce, Bureau of the Census, "Money Income of Households, Families, and Persons in the United States: 1984" Current Population Reports, series P–60, No. 151 (Washington, DC: U.S. Government Printing Office, 1986), Table 8; and authors' calculations.

The Effect of the "Life-Cycle" on Observed Inequality in the Distribution of Wealth

The pronounced "life-cycle" pattern in wealth holdings makes the simple Gini coefficient index of concentration a simplistic and misleading measure of the degree of inequality in the distribution of wealth. To illustrate the nature of the problem, imagine a world in which everyone has exactly the same amount of wealth at a similar point in their life but substantial life-cycle effects are present. If the distribution of wealth in this egalitarian society is observed at a single point in time, there will appear to be a significant degree of inequality even though everyone fares the same over the course of their existence.

How important is this source of wealth inequality in the United States? In a quantitative sense, it accounts for almost 43 percent of the inequality found in the 1984 Census survey. A Gini index of wealth concentration for that year, calculated on the basis of an assumption that everyone in a particular age class had wealth holdings equal to the mean for that group, has the value 0.296.[1] Thus, only 0.392 of the simple index of wealth concentration is attributable to sources of inequality other than life-cycle effects. Clearly, abstracting from the distorting effects of the life-cycle in wealth accu-

[1] This calculation is in the spirit of the procedure described in Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," American Economic Review, September 1975.

mulation gives quite a different picture of the pattern of inequality in wealth holdings in the United States.

Other Lifetime Effects on Wealth Inequality

The residual, non-life-cycle, portion of the index of wealth concentration is a maximum estimate of the degree on wealth inequality on a lifetime basis. It implicitly assumes that everyone maintains exactly the same relative position in the wealth distribution over time that they hold at the time that distribution is observed. In reality, some people move upwards and others move downwards in the wealth distribution as time passes. These changes in "position" in the wealth hierarchy tend to reduce lifetime inequality. In the absence of detailed cohort type data which would describe specific individuals' lifetime patterns of wealth accumulation, it is impossible to assess exactly how much of a reduction in wealth inequality this phenomenon produces. However, one investigation of its impact in "smoothing" *income* distributions through time indicates that perhaps as much as one-fourth of the residual inequality observed after the pure life-cycle effects are accounted for disappears as the result of lifetime changes in relative position within the income distribution.[2]

There is evidence in the detailed Census Bureau wealth data that is quite consistent with the existence of a "smoothing out" of wealth inequality in the course of peoples' lifetime. A very simple measure of the degree of inequality in the distribution of wealth can be obtained by comparing median and mean estimates of wealth holdings. Wealth distributions are quite skewed in character and, consequently, mean wealth for particular groups exceeds the median. The ratio of mean to median wealth within a group is an indicator of the degree of skewness, and the amount of inequality, in the particular distribution. The greater the mean estimate of wealth, relative to the median, the more skewed and the more unequal is the distribution.

Both mean and median estimates of wealth are available in the 1984 data for the various age classifications already reported. These are shown in Table 16–3, along with the ratio of the mean to the median estimate of wealth holdings by age group. The pattern is clear. The divergence between the mean and the median decreases as you move from younger to older age groups, suggesting that wealth inequality decreases with increasing age. The rank order correlation between age and the ratio of mean to median wealth is −0.93.

TABLE 16–3.—MEDIAN AND MEAN NET WORTH AND RATIO OF MEAN TO MEDIAN NET WORTH, BY AGE OF HOUSEHOLDER, UNITED STATES, 1984

Age of householder	Median net worth	Mean net worth	Ratio of mean to median net worth
15 to 34	$5,764	$22,703	3.94
35 to 44	35,581	69,480	1.95

[2] See Lowell E. Gallaway, "The Folklore of Unemployment and Poverty," In Governmental Controls and the Free Market: The U.S. Economy in the 1970's, Svetozar Pejovich, ed. (College Station, TX: Texas A.&M. University Press, 1976), pp. 52–53.

TABLE 16–3.—MEDIAN AND MEAN NET WORTH AND RATIO OF MEAN TO MEDIAN NET WORTH, BY AGE OF HOUSEHOLDER, UNITED STATES, 1984—Continued

Age of householder	Median net worth	Mean net worth	Ratio of mean to median net worth
45 to 54	56,791	115,263	2.03
55 to 64	73,664	130,498	1.77
65 to 69	66,621	125,420	1.88
70 to 74	60,573	103,435	1.71
75 and over	55,178	90,189	1.63

Sources: U.S. Department of Commerce, Bureau of the Census, "Household Wealth and Asset Ownership: 1984, Current Population Reports, series P–70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), Tables 2 and 3; and authors' calculations.

The Relationship Between Wealth and Income

In its report of the 1984 SIPP survey of wealth, the Census Bureau notes that, "* * * wealth holdings are concentrated in the top of the income distribution." [3] One cannot quarrel with the statement as a description of fact. Table 16–4 contains the pertinent data. There is an obvious association between income and wealth. However, it is a relationship that must be interpreted cautiously. As we have already noted, there are life-cycles in both income and wealth accumulation. Consequently, a part of the perceived relationship between income and wealth can be attributed to the life-cycle patterns present in both measures of economic status.

TABLE 16–4.—MEDIAN AND MEAN NET WORTH AND PERCENT OF TOTAL NET WORTH FOR HOUSEHOLDS, BY HOUSEHOLD MONTHLY INCOME, UNITED STATES, 1984

Monthly household income	Median net worth	Mean net worth	Percent of total net worth
Less than $900	$5,080	$29,659	9.7
$900 to $1,999	24,647	52,719	20.5
$2,000 to $3,999	46,744	80,074	31.8
$4,000 and over	123,474	242,055	38.0
Total	32,677	78,734	100.0

Source: U.S. Department of Commerce, Bureau of the Census, "Household Wealth and Asset Ownership: 1984," Current Population Reports, series P–70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), Tables B and 3.

The Census Bureau reports information on both median net worth and median family income, by age, for the SIPP survey of wealth and asset ownership. Information is available for seven different age classes and it is shown in Table 16–5.4 [4] A brief examination of these data does not reveal a clear-cut pattern between wealth and income holdings. The rank order correlation between median income and median net worth is −0.07, a statistically insignificant relationship *in the wrong direction.* A more sophisticated analysis, employing two-stage least-squares regression techniques and controlling for the impact of lifecycle effects by introducing age in a quadratic fashion, confirms this impression. Whether the dependent variable is income or net worth, *when the effect*

[3] U.S. Department of Commerce, Bureau of the Census. "Household Wealth and Asset Ownership: 1984," Current Population Reports, Household Economic Studies, series P–70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), p. 2.
[4] *Ibid.*, Table E, p. 4.

of age is controlled for, the relationship between income and net worth is not statistically significant.

TABLE 16–5.—MEDIAN NET WORTH AND MEDIAN MONTHLY HOUSEHOLD INCOME, BY AGE OF HOUSEHOLDER, UNITED STATES, 1984

Age of householder	Median net worth	Median monthly household income
15 to 34	$5,764	$1,596
35 to 44	35,581	2,238
45 to 54	56,791	2,381
55 to 64	73,664	1,822
65 to 69	66,621	1,306
70 to 74	60,573	1,022
75 and over	55,178	828

Source: U.S. Department of Commerce, Bureau of the Census, "Household Wealth and Asset Ownership: 1984," Current Population Reports, series P-70, No. 7 (Washington, DC: U.S. Government Printing Office, 1986), Table E.

This somewhat surprising finding is confirmed by analysis of a second set of data reported in the Census survey. It gives information on median household income and median net worth, by age, marital status of the householder, and sex of the householder when unmarried.[5] When these data are analyzed in the same fashion, introducing variables to control for householder marital status and sex, similar results are obtained. The dominant factors in explaining patterns of income and net worth are age and householder status. The linkage between household income and net worth is statistically insignificant.

The Importance of Property Income

The weakness of the relationship between net worth and income becomes more understandable when the relative importance of the income generated by assets is taken into consideration. The Bureau of the Census income statistics for 1984 for persons 15 years of age and older, by type of income, are summarized in Table 16–6.[6] They show that only 8.1 percent of income in the United States is in the category called *property* income, defined as including dividends, interest, net rental income, income from estates and trusts, and net royalties. Of course, it can be argued that this understates the importance of property income since at least a part of the earnings of the self-employed should be regarded as being derived from wealth. However, the total income from self-employment activities in 1984 amounts to only 5.5 percent of all income. If half of that income is ascribed to property holdings, total property income would still account for only a little more than 10 percent of all income. Of course, the major source of income in the United States is wages and salaries, which are 73.3 percent of all income. The remainder is largely transfer payment type income, which amounts to 13.1 percent of the total.

[5] Ibid., Table 1, p. 6.

[6] These data are derived from U.S. Department of Commerce, Bureau of the Census, "Money Income of Households, Families, and Persons in the United States: 1984," Current Population Reports, series P-60, No. 151 (Washington, DC: U.S. Government Printing Office, 1986), Table 35.

TABLE 16-6.—INCOME AND PERCENT OF INCOME, BY TYPE OF INCOME, PERSONS, UNITED STATES, 1984

[Dollar amounts in billions]

Type of income	Amount of income	Percent of total income
Wage or salary	$1,770.8	73.3
Self employment	135.3	5.5
Property	194.8	8.1
Transfer and other	316.5	13.1
Total	2,417.4	100.0

Sources: U.S. Department of Commerce, Bureau of the Census, "Money Income of Households, Families, and Persons in the United States: 1984," Current Population Reports, series P-60, No. 151 (Washington, DC: U.S. Government Printing Office, 1986), Table 35; and authors' calculations.

Further attenuating the relationship between income and asset holdings is the fact that property income is widely, albeit unequally, received in the United States. In 1984, it is estimated that 102 million persons aged 15 and over were the recipients of property income. The bulk of them had relatively small amounts of such income. For example, about 72 million received less than $1,000. However, collectively, we estimate that they account for about $15 billion of all property income. Moving up the scale, those who received more than $1,000 but less than $2,000 in property income claimed another $14 billion. From $2,000 to $5,000, another $34.7 billion is accounted for and the $5,000 to $10,000 group accounts for $35.2 billion. All told, *over one-half the property income in 1984 went to people who received less than $10,000 in income of this type.*[7] These statistics are summarized in Table 16-7. As to self-employment income, the Census Bureau estimates that 12,373,000 persons aged 15 or older had such income. Of them, only 1,818,000 had self-employment income in excess of $25,000 for the year. In short, there is *relatively* little property income in the United States and it is widely dispersed.

TABLE 16-7.—NUMBER WITH, TOTAL AMOUNT OF, AND PERCENTAGE DISTRIBUTION OF PROPERTY INCOME, BY HOUSEHOLD AND AMOUNT RECEIVED, UNITED STATES, 1984

[Dollar amounts in billions]

Amount of property income	Number of households with (thousands)	Total amount received	Percent of all property income
Less than $1,000	71,805	15.1	7.7
$1,000 to $1,999	9,657	14.0	7.2
$2,000 to $4,999	10,958	34.7	17.8
$5,000 to $9,999	5,143	35.2	18.1
$10,000 and over	4,613	95.8	49.2
Total	[1] 102,175	194.8	100.0

[1] Subclassifications do not add to total due to rounding error.

Sources: U.S. Department of Commerce, Bureau of the Census, "Money Income of Households, Families, and Persons in the United States: 1984," Current Population Reports, P-60 series, No. 151 (Washington, DC: U.S. Government Printing Office, 1986), Table 35; and authors' calculations.

[7] Ibid.

The Sources of High Incomes

The relative unimportance of property income as a source of affluence is also illustrated by a comparison of the income generating activities of households with 1984 incomes of $50,000 or more with those with incomes of less than $50,000 in 1984. The $50,000 distinction has been selected because (1) it very closely approximates the $4,000 per month or more of household income category employed by the Census Bureau in the SIPP survey of wealth and (2) it includes roughly the top 10 percent of all households in 1984. To the extent the top 10 percent of the income distribution corresponds to the top 10 percent of the wealth distribution, this is the group categorized as being "rich," or more, in the earlier study of the distribution of wealth released by the Joint Economic Committee.

The pertinent comparisons are presented in Table 16–8. We begin by observing that the high-income households show a greater incidence of reliance on earnings related types of income-generating activity; 96.2 percent of the high-income households have earnings compared to only 76.9 percent of other households. This means that fewer than 4 percent of high-income households had no earnings while almost one-fourth of other households were in this category. To be sure, a greater percentage of high-income households have property income, 92.2 versus 61.8 percent, but there is much less sole reliance on property as a source of nontransfer income than among other households. Only 3.7 percent of high-income households had property income and no earnings. Among other households, though, 13.4 percent had property income without earnings. Apparently, the dominant characteristic of the affluent in American society is work activity.

TABLE 16–8.—TYPE OF INCOME, BY HOUSEHOLD AND ANNUAL HOUSEHOLD INCOME, UNITED STATES, 1984

Type of income	Household income			
	Less than $50,000		$50,000 or more	
	Number of households (thousands)	Percent of households	Number of households (thousands)	Percent of households
Earnings	62,742	76.9	10,213	96.2
Wage or salary	60,012	73.5	9,819	92.5
Earnings that are only from self employment	2,690	3.4	394	3.7
Property	50,450	61.8	9,782	92.2
Property but no earnings	10,958	13.4	396	3.7
No earnings	18,871	23.1	412	3.8
Total	81,613	[1] 100.0	10,615	[1] 100.0

[1] Subclassifications do not add to 100.0 due to overlapping of category definitions.

Sources: U.S. Department of Commerce, Bureau of the Census, "Money Income of Households, Families, and Persons in the United States: 1984, "Current Population Reports, series P–60, No. 151 (Washington, DC: U.S. Government Printing Office, 1986), Table 35; and authors' calculations.

Conclusions

We have extended the analysis of wealth and income inequality in the United States in a variety of directions. The results can be summarized as follows:

(1) Much of the observed inequality in the distribution of wealth in the United States is the product of life-cycle patterns of wealth accumulation. By itself, the life-cycle effects will account for 43 percent of nominal inequality in the wealth distribution.

(2) There is evidence of a "smoothing out" of variations in wealth holdings over the course of peoples' lifetimes. This has the effect of reducing the amount of lifetime inequality in access to wealth even further.

(3) The linkage between wealth and income is quite tenuous. When the effects of age and other factors that impact on the process of wealth accumulation are controlled for, there is no systematic association between wealth holdings and household income.

(4) Income derived from wealth holdings is a relatively unimportant source of total income, accounting for, at best, about 10 percent of all income.[8]

(5) About one-half of income defined as *property* income by the Census Bureau is received by people whose income of this sort is less than $10,000 year.

(6) Those with relatively high incomes show a higher incidence of income derived from earnings and a smaller propensity to have property income and no earnings.

[8] Under an expanded definition of income incorporating imputed incomes to homes and other non-income-generating forms of wealth, as well as unrealized capital gains, the proportion would be somewhat larger, but still far less than that attributed to labor related income.

XVII. IMPLICATIONS FOR POLICY

Several major themes run throughout this study. First, income is the best measure of economic progress and prosperity. Alternative measures, such as wealth, are inferior from the standpoint of data reliability and, based on the best evidence currently available, in any case show no markedly different trends than observed with income. Second, people respond importantly to incentives in making economic decisions. This was first demonstrated in Chapter IV, with respect to taxes, but is repeated frequently in the discussion of poverty and welfare that follows. The law of supply is a factor that must be reckoned with in determining public policy. If you tax something, generally you get less of it (e.g., income); if you subsidize something, generally you get more of it (e.g., poverty).

A third theme follows from the second. Often public policy has led to results far different than what was intended, because incentive effects were not sufficiently heeded in initial policy determinations. This is observed with respect to taxes, where increases in taxes on the rich, such as the higher capital gains taxes of the seventies, led to reduced tax payments from the group, and where tax reductions in the eighties led to unanticipated very substantial shifts in the tax burden toward the wealthy. It is seen even more vividly with respect to our poverty policies. Increased welfare payments beyond a certain moderate level led people to "choose to be poor," foregoing work activity for a nearly as remunerative option of nonwork under the welfare system. Those payments in many cases are not available where traditional family relationships exist, so they have worked to alter and many cases destroy traditional family relationships, giving rise to increased divorce, single parent families, illegitimacy and abortion.

Fourth, the major cause of economic inequality in the United States is variation in labor force participation. A very large majority of income in this country is in the form of remuneration for labor services, and there is accordingly a striking correlation between economic success and the intensity of work effort.

With these trends in mind, this examination of poverty, income and wealth growth and its distribution has both positive and negative dimensions. On the positive side, economic growth in the United States has been far greater and more widely dispersed than some accounts suggest. Although there may have been some slowing in growth rates in the past decade or so, families and individuals are generally materially better off now than ever before. It is worth noting that income growth rates have slowed noticeably in most of the industrial democracies in the 1980's, and the American economic performance relative to other countries in recent years has been quite respectable. For example, during the 5-year period 1981–85, the United States' real GNP growth exceeded West Ger-

many's, France's and Italy's in 4 of the years.[1] Moreover, although regional disparities in growth exist, economic growth has been widely dispersed across areas.

Unfortunately, there is another less positive dimension. Our economic growth and, even more, labor productivity growth since 1970 has been somewhat below that observed in the quarter century before that date. Further, the trend toward greater equality in incomes, and possibly wealth, has halted and reversed somewhat in the past decade, although the magnitude of the reversal is not as clear as simple measures like the Gini coefficient indicate. Worst, poverty persists in America, seemingly resistant to reduction through either economic growth or governmental income transfer programs.

The theory and empirical evidence above clearly suggest that there is a strong association between the amount of work effort and the incidence of poverty. Unfortunately, the work disincentive effects of current poverty programs are so substantial as to raise rather than lower poverty rates; they seem to also increase income inequality and retard economic growth.[2] There is a significant negative statistical correlation between the incidence of work effort and the amount of public assistance in a given area.[3] This is hardly surprising given the fact that in many instances a poor person must give up 70, 80, or even 100 cents in welfare benefits for each dollar of income earned from work.

Various approaches to increasing work participation of welfare recipients in the labor force have been expounded. Some involve voluntary behaviorial shifts: these involve extending a "carrot" to the poor. Other approaches are mandatory, involving the use of a "stick." A "stick" approach is to require able bodied recipients to work for their welfare check. Variants of this approach include mandatory training to increase the marketability of the labor skills of poor persons. These approaches certainly are worth considering, and "workfare" in various forms has been at least nominally implemented in most States.

The research in this study, however, points to at least the possibility that alternative approaches may be worth trying, ones that do not require the establishment of new adminstrative structures or enforcement mechanisms. With these approaches, public policy is directed to trying to induce welfare recipients to enter the labor force voluntarily.

Our analysis leads us to believe that any meaningful change in the system should reduce the debilitating disincentive effects on work in order to induce voluntary enhanced labor force participation. As our chapter on the income tax burden showed, when marginal tax rates get beyond 50 percent, human behavior is powerfully impacted. A sharp lowering of the marginal "tax" rate on the

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[1] Economic Report of the President, 1986 (Washington: GPO, 1986), p. 378.

[2] This conclusion, of course, is far from universally accepted by all scholars. A representative recent study that argues that welfare programs have not had a severe negative impact on poverty is David T. Ellwood and Lawrence H. Summers, "Poverty in America: Is Welfare the Answer or the Problem?" Working Paper No. 1711, National Bureau of Economic Research (Cambridge, MA: National Bureau of Economic Research, October 1985).

[3] This is revealed in cross-sectional examination of the 1980 Census data on the work activities of the poor population. Regressions reveal a negative correlation between public assistance and the extent of labor force participation among the poor.

poor (manifested in welfare benefits sacrificed by working) would seem like an important prerequisite to increasing labor force participation among lower income Americans.

Lowering marginal tax rates for welfare participants can be done in a variety of ways, some reducing public assistance expenditures, some increasing it. A "conservative" approach would be to reduce maximum public assistance benefit levels from what current law provides, but also greatly reduce the loss of welfare income associated with each additional dollar of work income. For example, suppose in some State maximum welfare benefits for a given family are $600 a month (where there is no other income), but benefit eligibility is ended at $1,000 monthly income. Thus a $1,000 a month worker pays a 60 percent tax ($600) in welfare benefits foregone by working. Lowering the maximum benefit to $400 and continuing to phase out benefits at $1,000 would lower the tax to 40 percent.

This approach would save taxpayers money while increasing labor force participation and reducing alienation of poor people to the world of work. Some would argue, however, it is "unfair" or would cause hardships. Accordingly, an alternative, "liberal" approach would be to maintain maximum benefits at current levels but to reduce benefits more slowly as work income rises, in effect raising the ceiling income necessary for welfare eligibility. In the previous example, the maximum benefit would be kept at $600 but welfare payments would be phased out until work income reached a higher level, say $1,250 a month. In this case, the marginal tax rate would fall from 60 to 48 percent. This approach would be far more costly, but still would involve some marginal reduction in the "tax" associated with working.

A political compromise may be possible, acceptable to both liberals and conservatives, that involves both some reduction in maximum benefit levels and some increase in the income threshold determining welfare eligibility. Using the previous example, perhaps maximum benefits would be lowered to $500 but the earnings threshold used to deny eligibility would be raised to $1,250, lowering the marginal rate to 40 percent. In addition, of course, changes in Federal income taxation such as those enacted as a consequence of the historic 1986 tax debates can serve to lower the explicit income tax burden of the working poor without reducing incomes for the nonpoor (indeed, those incomes should also increase).

A part of the poverty population does not have work as a viable option, because of disability imposed by physical or mental condition or age. An entirely different, and possibly far more generous, payment system might be appropriate for this group that is not facing a "work tax" by receiving public assistance. At the same time, in order to avoid fraud, potentially very likely in any system with two sets of payments, care must be exercised in narrowly defining and verifying the nonemployable categories of persons receiving the financially more lucrative form of public assistance.

The poor record of success with public assistance programs along with the evidence of "crowding out" of private philanthropy suggests new approaches might be made to "privatize" public charity to some extent. A mere reduction in public expenditures in this area would partially accomplish this, an approach consistent with the "conservative" option for reducing marginal "tax" payments

on work income discussed above. In addition, perhaps greater use could be made of tax credit schemes where the taxpayer designates the charitable use (possibly even naming a deserving disadvantaged family) for which he or she wants part of his or her tax dollars diverted. Not only would this stimulate giving, but might lead to improved targeting of aid. Similarly, on the expenditure side, schemes such as selling public housing to occupants would seem to be a possible means of reducing any inefficiencies associated with the public nature of transfer programs, although we have not examined this issue explicitly.

Not only does the current welfare system reduce incentives to work, it also increases incentives to engage in social behavior that a majority of society's population probably finds undesirable, such as unmarried teenage pregnancy. The welfare system has undermined the traditional family structure, and any welfare reform should deal with this issue. In this connection, perhaps all public assistance should be denied persons under 18; perhaps benefits should not be tied to the marital status of the household head as it often is at present. Certainly a strong case can be made for eliminating the system's current provision of additional payments when additional children are produced. The baby-producing subsidy would seem to aggrevate poverty by reducing labor force participation, independent of issues related to the living environment in which the child is reared. It may seem incongruous that the American public welfare system simultaneously subsidizes both the creation of life (via AFDC and other payments for additional children) and, some would say, its destruction through cash subsidies for abortion.

A major problem arises from mistargeting of benefits. Two issues arise: many people receive benefits who are not in any sense economically destitute, and a relatively small number of genuinely poor people absorb a large percentage of public expenditures for income transfers because of their long-term dependency on benefits.[4]

Dealing with of the problem of undeserving beneficiaries is not simple, and some possible "solutions" may create severe new issues. For example, often the problem can be relieved by giving welfare administrators flexibility in determining eligibility, but that in turn might in some instances lead to charges of favoritism, politicization, etc. Some experiments in rewarding administrators according to the amount that they reduce, say, the poverty rate, per dollar of public assistance moneys expended might be worth-

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[4] The question of welfare dependency has been extensively examined by many researchers. For a good survey of the literature, see Greg J. Duncan and Saul D. Hoffman, "Welfare Dynamics and the Nature of Need," to be published in a forthcoming issue of the *Cato Journal*, spring/summer, 1986. A few other representative studies include Richard D. Coe, "Dependency and Poverty in the Short and Long Run," in Greg J. Duncan and James N. Morgan, eds., "Five Thousand American Families: Patterns of Economic Progress" (Ann Arbor: Institute for Social Research, 1978); David T. Ellwood, "Targeting the Would-Be Long Term Recipient of AFDC: Who Should Be Served?" (Cambridge, Mass.: Harvard University, photocopied, 1984); Victor R. Fuchs, "How We Live" (Cambridge: Harvard University Press, 1983); and June A. O'Neill et. al., "An Analysis of Time on Welfare," Report to ASPE/Department of Health and Human Services (Washington, DC: Urban Institute, June 1984). On the subject of "targeting" public aid, an excellent discussion of some of the political problems may be found in Russell D. Roberts, "A Positive Model of Private Charity and Public Transfers," Journal of Political Economy, February 1984, pp. 136–148.

while. Incentives (bonuses) might be given to welfare workers who seem to be particularly effective in channeling aid to the truly needy, although there are severe measurement and administrative problems to such an approach. At the same time, the current system does not reward "welfare entrepreneurship" or innovation. The Federal tax credit to individual citizens for payments to the needy or private welfare organizations would at least lead to some targeting in assistance in accord with the wishes of the taxpayer citizenry. At the same time, of course, this would reduce tax revenues.

A large proportion of public assistance moneys go to a relatively modest number of people who have received assistance for many years.[5] To deal with this phenomenon, incentives could be devised to reduce drastically this long-term welfare dependency. Perhaps public assistance should be considered a temporary "helping hand," much like unemployment compensation, with payments continuing only for a fixed time period, except for those permanently disabled. An alternative would be to gradually reduce benefits after a period of perhaps 3 to 6 months of relatively high-level benefits. This would serve to gradually reduce the "work tax" associated with welfare or, put differently, raise the cost of remaining on nonwork related welfare rolls.

Alternatives for More Fundamental Reform

The suggestions above involve essentially maintaining the current welfare system but changing some of the rules under which it operates. An alternative would be to eliminate, for the most part, the current institutional framework in which public assistance is given and begin with a new, presumably simplified system. Because of the severe political problems associated with any radicial change, such schemes usually are dismissed, yet they often offer possibilities for real improvements.

The most radicial possibility would be to simply get out of the welfare business completely at the Federal level, lowering taxes by the amount expended currently on such programs. An alternative would be to use the revenues saved to fund a tax credit provision for private contributions for assistance to the needy. State and local governments that believe massive public assistance programs are necessary to help the disadvantaged could continue to offer a major array of services, while other States worried about the work disincentive effects and costs could offer more modest services. Such a proposal might not have the devastating impact that would seem likely at first glance. Part of any reduced Federal welfare spending would undoubtably be replaced by State and local spending, and part would be replaced by private charity that has been crowded out in recent years by Great Society type programs. Moreover, because of the targeting problem, some of the funds currently spent on public assistance are inappropriately spent anyways, and probably should not be continued in any revised welfare scheme. Most important, the evidence is clear that faced with reduced public assistance income, many recipients would very substantially

[5] See Duncan and Hoffman, "Welfare Dynamics * * *", op. cit.

increase their rate of labor force participation, in some cases to the point that their cash incomes would rise significantly over existing levels. Although there would be some very important transitional problems, it is possible that, in the long run, poverty under this option would be as low or lower than under the current system. However, we would note that our analysis does suggest that Federal aid had a poverty-reducing impact when it was dispensed in relatively modest amounts (until the early 1970's).

Other options include a negative income tax scheme (popularized by Milton Friedman) that would provide for Federal payments when income falls below a certain threshold level. Such a scheme could lead to enormous administrative savings, reduce the targeting problem and eliminate the complexity that keeps some poor away from seeking benefits. At the same time, however, any negative income tax does impose a marginal "tax" on work effort, although it could be reduced from the implicit marginal tax prevailing under current arrangements.

One final "radical" option we would mention would be to institute a lifetime voucher system that gives all citizens coupons at the age of majority which could be redeemable for cash assistance during periods of distress in one's life. Only a fixed number of coupons would be issued to each individual, so each person would know in advance to what extent public aid was available during one's lifetime. A citizen not using her or his coupons would be rewarded at retirement with a boost in the Social Security pension (upon redeeming the unused coupons); a person who exhausted his or her coupons could only get minimal subsistence payments in return for full-time public service work from the Federal Government. (Private charity, of course, could be available as well for such individuals). A person who exhausted his or her coupons, could, however, obtain new coupons by working full time for a specific time period, adding to the incentives to work. Such a system would almost certainly reduce sharply the work disincentives existing with the current system, and it has a certain equalitarian equity in that every person is treated exactly the same beginning at the age of majority. Exceptions, of course, would be made for persons who become permanently disabled after achieving the age of majority.

While many alternative solutions exist, the important thing is to begin the process of serious reevaluation of our system of public assistance. The research within this study has been necessarily somewhat selective in nature, not discussing such important topics as Social Security, for example. The possible reforms discussed above are likewise merely suggestive. Both theory and evidence, however, tell us that change in the system has the potential to promote both economic growth and economic justice for the American people.

Our system was not designed to be inadequate. Because of unintended consequences, our expenditure and tax policies often have served to have impacts quite different than expected. In particular, it has been too often assumed that human behavior would not change in the light of changes in incentives and disincentives induced by public policy. Recognition of these incentive and disincentive effects can help us develop positive alternatives to our current public policies relating to income distribution and poverty.

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